

DEPARTMENT OF BUSINESS AND MANAGEMENT

**research evaluation
2012-2017
preliminary report**



AALBORG UNIVERSITY
DENMARK

Preface

From 2017-2018, the Department of Business and Management at Aalborg University has been carrying out a research evaluation with the aim to inform the development of the department's research strategy in view of maintaining and further improving the high standards of research and associated academic and societal impacts. Furthermore, the aim is to identify (new) research potentials within the various research groups and within the department as a whole.

This report includes a general background description of the department and the ten self-evaluation reports made by the research groups. The report is sent to the Evaluation Panel prior to

its visit to the department from March 11-14, 2018. The evaluation and recommendations made by the Evaluation Panel during the visit will be added to the report after the visit.

The report is [to be] signed by the panel members and submitted to the Head of the Department of Business and Management on [INSERT DATE].

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1. Introduction

1.1 Background of the Research Evaluation – Scope and Context

As an integrated part of the Department of Business and Management strategy from 2016-21, the Department Council decided to carry out an evaluation of the research profile of the department.

The background for the decision to initiate the research evaluation process was that within a relatively short period, the department had experienced a comprehensive growth in the number of students and staff. In the same period, ten heterogeneous research groups (in terms of age, size and research focus) had developed mainly from a bottom-up process. On various occasions, there has been an ongoing discussion on the potential for more systematic collaboration in research, teaching, PhD-training, external funding, etc., across the research groups.

The preparation for the research evaluation began in early 2017. Four general principles were laid out for the evaluation:

1. Focus on research group level and department level
2. Point of departure in heterogeneity – one template but room for different priorities in the self-evaluation process
3. Emphasise that each research group and the department should benefit from the process
4. Transparency and mutual learning (intranet, common meetings and seminars)

For the department, this is the first systematic research evaluation at the department level that simultaneously evaluates all research groups. A Steering Group and a Term of Reference for the evaluation were approved by the Department Council. It soon became clear that much of the available background data were neither updated nor consistent. Part of the exercise has been to update and 'clean' the data at the department and group levels. The background data is still imperfect, but this task will be easier when the evaluation process is repeated.

The department is currently in the midst of a transition with an overall aim to achieve a better balance between teaching and research activities. The research evaluation process is meant to support this objective.

1.2 Presentation of the Evaluation Panel

As part of the evaluation, an external Evaluation Panel has been appointed. The Evaluation Panel is composed so that its members have not been previously involved in the research of the Department of Business and Management and that they have experience in research evaluation and are collectively competent in the department's research areas.

Aldo Geuna is professor at the Department of Economics and Statistics Cognetti de Martiis, University of Torino, Italy, since 2008. His research focuses on Economics of Science, Economics of Innovation, Science and Technology Policy, Higher Education, Economics and Policy, Entrepreneurship, Industrial Economics, Economic Growth, and Development Economics. He has published several articles in leading scholarly journals, including *Research Policy*, *Industrial and Corporate Change*, *Prometheus*, *Minerva*, *Economics of Innovation and New Technology*, *Journal of Technology Transfer*, *Research Evaluation* and *Scientometrics*. He is a member of the Editorial Board of *Journal on Research Policy and Evaluation* (since 2013), *Journal of Technology Transfer* (since 2010), *Research Policy* (since 2010) and *VEST-Journal for Science and Technology Studies* (since 2002). He has been a coordinator of several research projects financed by the European Commission, the UK Research Councils, the Italian Ministry of Science and other international funding agencies. He has functioned as a consultant and advisor to governmental bodies and national and international non-profit organisations, such as ANVUR (I), Swedish Research Council (Se), Royal Swedish Academy (Se), OECD, EC, ESF-EMRC, DTI (UK), ESRC (UK) and CRUI (I). From 2014-2015, he was a member of the Expert Group 'Key Long-Term Transformations in Research, Innovation and Higher Education' (European Commission, DG Research). From 2014-2016, he was the Deputy Director for Teaching of the Department of Economics and Statistics Cognetti de Martiis; from 2012-2013, Deputy Director for Research of the Department of Economics and Statistics Cognetti de Martiis; from 2011-2013, Coordinator of the University Research & Evaluation Office; from 2010-2012, Deputy Director of the Doctoral School in Economics of

the University of Torino; and from 2013-2018, Design and Coordination of the Erasmus Mundus Master Programme: Economic Policies in the Age of Globalisation.

Johtaja Sami Saarenketo is Dean and professor of International Marketing at the School of Business and Management, Lappeenranta University of Technology, Finland. His research covers topics related to International Marketing, International Entrepreneurship and Internationalisation of the Firms, especially 'Born Globals', International New Ventures and Partnership and Networks. Most of his research has taken place in the contexts of knowledge-intensive and technology-based companies such as ICT and software businesses. He is the author of numerous theoretical and empirical articles, many of which have been published in leading scholarly journals, including *Journal of World Business*, *Management International Review*, *International Business Review*, *Technovation*, *European Journal of Marketing*, *European Business Review* and *Journal of International Entrepreneurship*. He has directed and participated in numerous TEKES, industrial firms and research projects funded by the Academy of Finland. He has worked as a visiting professor and lecturer in several universities and business schools in Finland and abroad: University of Eastern Finland, University of Oulu, University of Turku, Skema Business School (France), Trondheim Business School (Norway), Mälardalen University (Sweden), Hochschule Kempten (Germany) and University of Liechtenstein. Since 2005, he has been a member of the board of the Finnish Graduate School of International Business (FIGSIB). Since 2013, he has been a Steering Committee member, EFMD Masters, and since 2014, he has been a member of the board of the Association of Business School Finland (ABS).

Per-Olof Brehmer is professor and Head of the Department of Management and Engineering, Linköping University, Sweden. His research focuses on the management of knowledge-intensive multinational companies. One strand of this work has examined the ways in which knowledge-intensive multinationals identify innovative practices in their international operations and subsequently diffuse these across the firms. Other strands have investigated the influence of purchasing strategies in the automotive industry, aircraft industry and the telecommunication industry and the management of innovations, supply chains, resources and related strategies during periods of changing landscapes. He has published in leading scholarly journals, including *Journal of Professions and Organization*, *Economic Essays*, *Journal of Business & Industrial Marketing*, *Journal of Information Science and Technology*, *Journal of Organisational Transformation and Social Change*, *Strategic Outsourcing*, *International Journal of Services Technology and Management*, *European Journal of Marketing*, *International Journal of Knowledge Management Studies* and *International Journal of Productivity and Performance Management*. From 2001-2006, he was the Director of the PhD education in Management and Industrial Engineering; from 2004-2008, Research Director of the IMIE research programme; and from 2006-2007, the Head of the former Department of Management and Economics. Since 2007, he has served as the Head of the Department of Management and Engineering.

1.3 Guidelines for the Evaluation Panel

Based on the written material provided by the Department of Business and Management and the

on-campus visit of the Evaluation Panel between March 11 and March 14, 2018, the Evaluation Panel was asked to provide its evaluation of the research profile of each research group and the department as a whole. Comments and recommendations from the Evaluation Panel will serve as input for the development of the department's future strategies, priorities and activities.

At the department level, the key focus of the evaluation includes:

- Research strategy (including its coherence with identified strengths and weaknesses)
- Research output
- The strengths and weaknesses of existing research areas, including research priorities as well as possibilities for future research areas/development, including cross-disciplinary research potential
- Involvement/participation in international research collaboration
- Acquisition and integration of PhD students
- Coherence between research and teaching
- Organisational setup for promoting research quality and productivity, societal impacts, international visibility and cross-disciplinary collaboration
- Staff composition, research recruitment and retention
- Research financing and resource allocation, including future perspectives and areas requiring special attention

At the research group level, the key focus of the evaluation includes:

- Research output and publication strategy
- Group's composition, research leadership and inclusiveness

- Research support
- Staff development
- PhD recruitment, supervision and environment
- External funding portfolio, considering the group's strategy in terms of external funding
- International research visibility
- Alignment of research expertise and teaching engagement – research-led teaching contribution
- Third mission activities, including knowledge transfer and research dissemination
- Academic and societal impacts of research

As part of the evaluation process, each research group has been asked to prepare two societal impact cases, and one from each research group is included in the group chapters. Several of the research groups have decided to place a higher priority on such impact cases in the future.

Written material

Prior to the visit by the Evaluation Panel on March 11-14, 2018, the following written documents were provided to the panel:

- Main evaluation report – department and research group self-evaluations
- Social Science Faculty report, including facts and figures
- Evaluation model and evaluation questions that the panel is asked to evaluate and provide recommendations for the department and research groups
- 'Knowledge for the world - Aalborg University Strategy 2016-2021'
- 'Strategy 2016-2021 - Faculty of Social Sciences, Aalborg University'

- 'Strategy 2016-2021 - Department of Business and Management'
- Brief abstracts of PhD theses from 2012 to 2017, Department of Business and Management

Prior to and during the panel visit, the Evaluation Panel had an opportunity to request any supplementary material.

1.4 Panel Visit [to be completed after the visit]

The panel visit took place on March 11-14, 2018, at Aalborg University.

During the visit, the Evaluation Panel prepared written versions of their evaluations of and recommendations to the department and the research groups. The final versions of these evaluations and recommendations are [to be] included in this report.

2. The Department of Business and Management

2.1 Introduction

The Department of Business and Management conducts research and teaching in Business Administration and Economics, which includes long-established business and economics disciplines, such as Organisation and Strategy, Accounting and Financial Management, Auditing, International Business and Marketing, but it also includes interdisciplinary areas, such as Innovation and Development, Business Model Design, Creativity, Entrepreneurship and Health Economics.

Research activities are organised in ten research groups that each have a different research focus:

Auditing, Accounting, Advice Research Group (AAA) performs research within accounting, auditing, advice and financial management fields that can be applied to private businesses and public authorities.

The *Business Design Center (BDC)* is an interdisciplinary research centre that focuses on business model theory and practice, including business model innovation and performance benchmarking.

The *Center for Impact Analyses of Investments in Knowledge & Technology (IMPAKT)* conduct research and user-oriented analyses related to industrial transformation, with a particular emphasis on knowledge and technological change.

The *Danish Center for Healthcare Improvements (DCHI)* generates knowledge and methods for improvement in daily clinical practice. Researchers at the centre co-operate closely with researchers from the Faculty of Medicine at Aalborg University.

Firms, Innovation & Relations Management (FIRM) focuses on how organisations and strategies are developed and create sense in everyday praxis in different types of private and public organisations and networks.

The *International Business Centre (IBC)* performs research within the field of international business economics. Research covers companies from developed, transition and emerging economies; in terms of company scope the group studies start-ups, small and medium-sized companies and MNCs.

Innovation, Knowledge & Economic dynamics (IKE) focuses on economic and industrial dynamics at different levels of aggregation with special attention to the economics and management of knowledge and innovation. The broad foundation of the group is the interdisciplinary field of innovation studies.

Management, Accounting & Control (MAC) focuses on management accounting models and how these are implemented in private and public organisations. The group analyses Performance measurement, Activity-Based Costing, Informatics, Budgeting and business models.

Macroeconomic Methodology, Theory & Economic Policy (MaMTEP). The MaMTEP research group studies various aspects of macroeconomic methodology, macroeconomic theory and economic policy in order to obtain a better understanding of how economic activities unfold themselves in a modern monetary macroeconomic context.

Organizational Renewal & Creativity Applied (ORCA) focuses on the development and challenges regarding organizations and the associated creativity. The primary aspects are qualitative research and action-based research, with a cross disciplinary and problem-based approach.

The purpose of Chapter 2 is to provide an overview of key figures and activities at the department level as background information for the succeeding self-evaluation reports from each of the ten current research groups.

Section 2.2 provides basic information regarding the number of students and study programmes. Section 2.3 provides information about the economic context at the department level. Section 2.4 discusses the staff development, and Section 2.5 provides a brief overview of the existing research groups. Section 2.6 outlines basic information on PhD activities. Section 2.7 takes a closer look at publication data at the department level, and Section 2.8 lists other research related activities and events. An overview of selected key international research collaboration

and network is provided in Section 2.9. Section 2.10 summarises the main strategic aims and activities related to research and research training that are outlined in the department strategy 2016-2021. Finally, Section 2.11 discusses the important challenges that the department will face in the next five years.

2.2 Students and Teaching

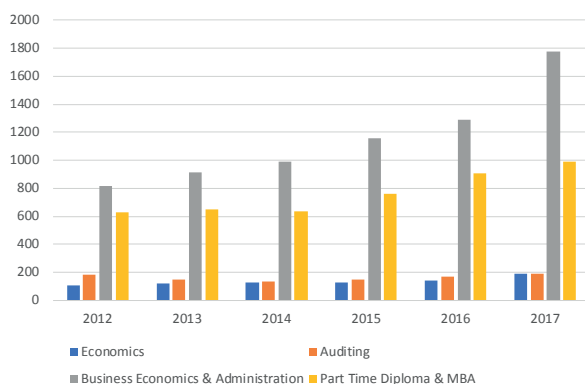
From the very start of the department in the mid-70s, teaching and supervision have played a key role as drivers for the overall development of the department in terms of staff recruitment, research agendas and resource allocation.

The department offers bachelor's and master's programmes in Economics and in Business Economics and Administration as well as part-time diploma and MBA programmes. The study programmes are administrated in two schools: one for full-time bachelor's and master's programmes (School of Business & Economics) and one for MBA and part-time graduate diploma programmes (AAU Executive, School of Business & Social Sciences). Appendix 2.1 provides an overview of the current study programmes affiliated with the department.

The total number of full-time students has nearly doubled from around 1105 students in 2012 to 2155 students in 2017. The vast majority of students are

enrolled in the Business Economics and Administration programmes, while the Economics and the Auditing programs have stabilized on a lower but sustainable level (see Figure 2.1). From 2018 and onwards, the total number of bachelor's and master's students in Business Economics and Administration are expected to stabilize at the current level as a consequence of the decision by the university to implement numerous clauses on bachelor's programmes and selected master's programmes.

Figure 2.1: Total Student Population Full Time Bachelor & Master Programmes, Part Time Diploma & MBA, 2012 -2017



Five of the nine master's programmes are international programmes (taught in English) that enrol Danish and international students. In 2012, the department established an international bachelor's programme in Business Economics and Administration as a parallel to the Danish BSc. program (HA). The first international programme (MSc. in International Business Economics) was established at the department more than 30 years ago, and international students have played an important and positive role for the student environment, staff composition and research agenda. International students and staff contribute to an environment where different cultures

meet and people learn from each other at an academic and a personal level. Currently, there are around 425 international bachelor's and master's students representing more than 30 different countries.

The number of part-time graduate diploma students has increased by nearly 60% since 2012, which implies that in 2017 around 1000 persons participated in part-time further education organised by the department. In 2012, a new MBA program was successfully launched with a yearly intake of between 20–25 students. Activities related to continuing education are expected to grow further in the years to come although the market for continuing education is competitive and fluctuating.

In general, Aalborg University has experienced relatively high growth in the number of students and staff from the Department of Business and Management also gets involved in teaching activities in the study programmes of other departments, where business economics and economics disciplines are part of the curricula (as is for instance the case within the study programmes in Business Law, Political Science, Engineering and Master of Public Governance [MPG]). The growing number of students has increased demand for teaching and supervision, and, as several of the research groups mention in their self-evaluation reports, the growing teaching load has squeezed the research time for the tenure staff.

There is a clear relation between current master's programmes and the research groups in the sense that most research groups have a specific coordinating and teaching responsibility for a specific master's programme (see Table 2.1). On one hand, the nearly one-to-one relationship between master's programmes and the research groups clearly provides synergy in both directions. On the other hand, the close relationship may potentially block teaching collaboration between the research groups.



Table 2.1: Research Groups and Primary Master's Programme Connection

RESEARCH GROUP	STUDY PROGRAMME
	<i>MSc. in Business Economics and Administration</i>
Firms, Innovation & Relations Management (FIRM)	<ul style="list-style-type: none"> • Organisation and Strategy (in Danish)
Management, Accounting & Control (MAC)	<ul style="list-style-type: none"> • Management Accounting (in Danish)
International Business Centre (IBC)	<ul style="list-style-type: none"> • International Business Economics • International Marketing
Innovation, Knowledge & Economic dynamics (IKE) + Center for Impact Analyses of Investments in Knowledge & Technology (IMPAKT)	<ul style="list-style-type: none"> • Innovation, Knowledge and Entrepreneurial Dynamics (MIKE-B) & Innovation, Knowledge and Economic Dynamics (MIKE-E)
IBC (+ IKE)	Innovation Management (Sino-Danish Centre, SDC, Beijing)
Organizational Renewal & Creativity Applied (ORCA) + Business Model Design Center (BDC)	Creative Genius (Specialized semester programmes (30 ECTS))
Business Model Design Center (BDC)	<p>New Venture Creation (Specialized semester programme (30 ECTS))</p> <p>Corporate Entrepreneurship (Specialized semester programme (30 ECTS))</p>
Macroeconomic Methodology, Theory & Economic Policy (MAMTEP)	<i>MSc. in Economics</i>
Auditing, Accounting, Advice Research Group (AAA)	<i>MSc. in Auditing (in Danish)</i>
Danish Center for Healthcare Improvements (DCHI)	<p>Faculty of Medicine</p> <ul style="list-style-type: none"> • MSc. in Medicine with Industrial specialization (medical market access) • MSc. in Public Health

2.3 Economic Context and External funding

During the evaluation period, the department experienced quite important shifts in the economic framework conditions for staff development and

research activities. The first important change in the economic conditions materialized when the Social Science Faculty in 2011/12 implemented a new internal budget model which implied that — as a point of departure — the allocation of resources between departments should depend directly on the

activities in teaching, research performance and external funding. This formed the basis for the high growth in the number of staff in the following years.

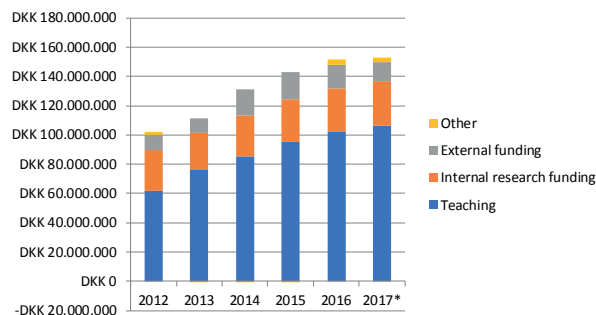
The second change occurred due to a high budget deficit in 2013 at the university level. This enforced direct spending cuts in 2013 and 2014 and severe restrictions on staff recruitment. Furthermore, the teaching load for tenure staff increased by nearly 10% from 450 hours to 492 hours pr. semester.

The third intervention occurred in 2015, when the activity-based allocation model was adjusted at the university and the faculty level with the implication that internal resources allocated for research, except for very marginal, performance-based adjustments, were frozen at the 2014 level for the following four years (2015 to 2018). For departments, such as Business and Management, in need of more tenure staff due to the increasing number of students, this has put extra pressure at the department level for external funding. One way the department has dealt with the relatively reduced share of internal basic funding for research is by maintaining a relatively high share of external teaching staff (without research obligations). During 2018, a new internal budget allocation model at the university and faculty level will be decided for 2019 and onwards. An important component of the new budget model is to stimulate the incentive mechanism to apply for external funding. On the other hand, it is expected that the allocated net resources for teaching will be reduced. Together with a yearly 2% efficiency demand, this may again tighten the future financial situation.

Despite these altering economic circumstances during the evaluation period, the department has in general experienced a substantial growth in income (and turnover) — from around 102 million DKK in 2012 to 153 million DKK in 2017 (see Figure 2.2).

The income increase mainly reflects the increasing number of students activating taximeter income. In 2017, around 70% of the total funding of department activities was derived from teaching activities, and out of the remaining 30%, two thirds are funding that is internally allocated by the university for research, and one third stems from external funding.

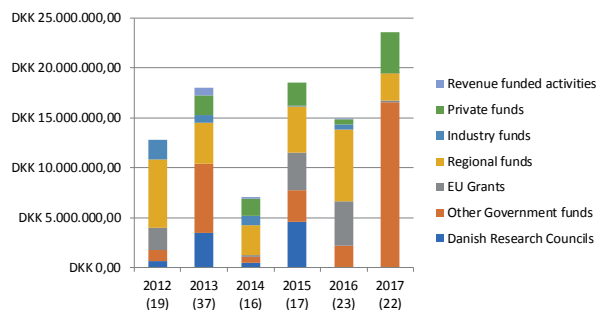
Figure 2.2: Income Sources 2012-2017. DKK



Note: 2017* forecast based on budget

Figure 2.3 provides an overview of new research grants obtained from 2012–2017 distributed by source.

Figure 2.3: New Grants in DKK and Sources 2012-2017



Note: 2012 (19) indicates 19 grants in 2012, etc.

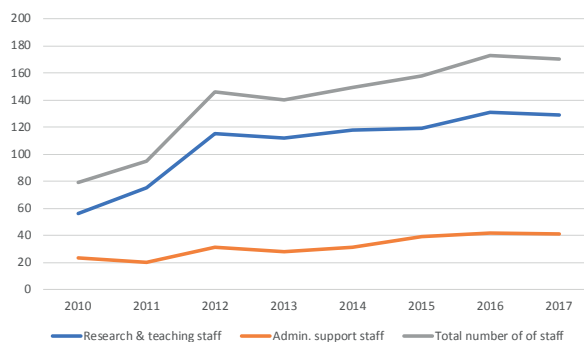
As Figure 2.3 shows, there are clear variations year by year both in the amount of newly obtained grants and in its sources. Regional grants play an important role as a source of external funding at the department level. This corresponds with a long tradition to collaborate closely with the local region and local companies. In 2013 and 2017, a couple of larger grants from what is here classified as other government bodies than the Danish Research Councils influence the picture. Over a longer period, the department has received large grants, especially from The Swedish International Development Cooperation Agency, SIDA and The Danish International Development Cooperation Agency, DANIDA. The majority of the SIDA and the DANIDA funding is devoted to capacity building, such as PhD scholarships, travel support for participation in conferences and PhD training for young African scholars in the South. The involved research groups from the department — primarily the IKE Group and IBC — emphasise that capacity building is a mutual learning process that needs a long-term horizon, specifically when it comes to yielding high-profile research outcomes.

Among the private funds, the Obel Family Fund has for many years granted various larger and smaller research projects to the department (and the university as a whole), but also other private funds – not least related to health care research have supported new research project to the department (DCHI research group). Naturally, there are differences between the various research groups regarding to what extent and where they apply for funding. Success rates differ as well between the different sources, and when large and multi-years research projects are granted, applications for new grants may be set on hold for a period. Finding a long-term balance at the department and research group level between internal and external research funding is a key strategic issue for the coming years.

2.4 Staff Development

The department has doubled its number of staff since 2010, with the highest recruitment rate taking place from 2011 to 2012, just before the baseline of the research evaluation period.

Figure 2.4: Number of Staff 2010-2017 (Heads)



The staff increase reflects a variety of explanations at the micro and research group level. In retrospect, the result may look more designed and planned than it has been although both individual preferences, coincidences and larger external funding have influenced the staff recruitment and retention processes. This being said, the overall department recruitment strategy has been to do the following:

- Increase the number of tenure teaching staff in selected areas (e.g. management accounting, auditing, organization and strategy, marketing, quantitative and qualitative methods)
- Use PhD scholarships as potential recruitment for tenure staff
- Secure a planned generational shift, as a relatively large proportion of the staff are moving towards retirement in the coming years — a

process that has already started

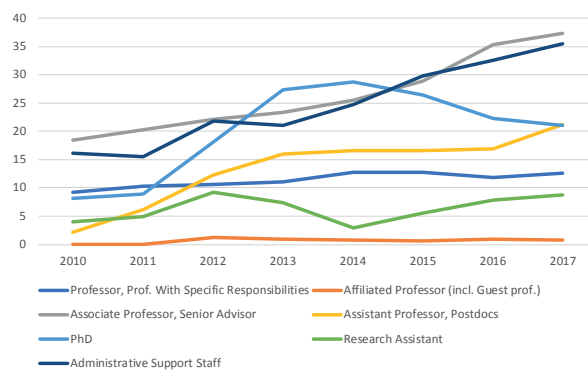
- Develop new (for the department) research and teaching areas — for instance within business model design, creativity, entrepreneurship, health economics, macroeconomics, environmental economics and societal impact analyses.
- Ensure professional administrative support to teaching and study programmes, research groups and department secretariat in order to meet the increasing and more complex administrative tasks at the department level, including support of external collaboration and alumni activities.

Figure 2.5 displays the staff development within different categories. The high intake of PhD students from 2012–2015 reflects an attractive co-funding model for PhD scholarships from 2012-2013, and this high intake of PhD students has served as a foundation for later recruitment of assistant professors and postdocs. The continued increase in the number of associate professors is based on a combination of internal and external recruitment. Overall, the high increase in the number of research staff members in their early academic career has changed the diversity of research staff in terms of age, gender and nationality as well as the research profile of the department.

The high increase in administrative staff reflects three different but interdependent types of administrative support. The majority of secretaries are study secretaries who support students and teachers with all study-related administrative tasks. The growth of this group is a combination of the increase in the number of students and a general decentralisation of study administrative tasks from the faculty and the university central administration to the department level. The second group provides

administrative support to the research groups, including administration of external funded research projects as well as organisation of seminars, conferences and PhD defences. The final group of administrative support staff is related to the day-to-day operation of the department, including budgeting and economic reporting, HR, communication, alumni, external collaboration, ordering all kinds of material from coffee to IT and several ad hoc tasks. It has been a clear strategy at the department level to enhance the level of administrative support for staff and students — both in quantitative and qualitative terms.

Figure 2.5: Staff Development 2010-2017 (FTE)



Note: Source for the FTE-data is the university ERP-system (ØSS), in which employment data is linked to formal occupation category. This means, that, if, for instance, a staff member shifts from assistant professor to associate professor on August 1st, 2014, seven months are counted as assistant professor, and five months are counted as associate professor for the year 2014.

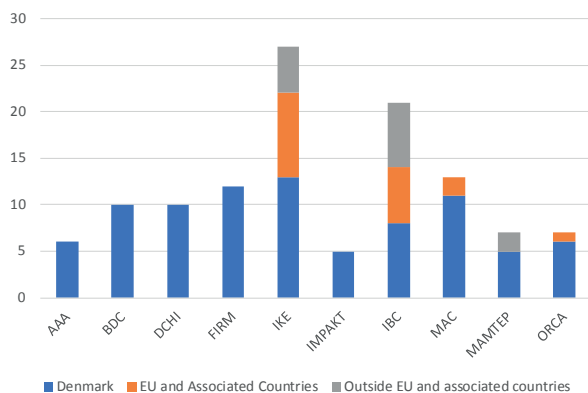
Staff Diversity (Gender and Nationality)

The Department of Business and Management resembles many (probably most) business and economics university departments when it comes to the gender distribution of academic staff members.

In 2012, only three out of the 26 associate professors were women, and the department did not have a full-time, female professor until 2017. Currently (end of 2017), the gender balance at the department level is only found in the PhD group although the assistant professor's group is getting close to a gender balance. The expectation is that the gender balance among associate professors and professors will improve over the coming 5–10 years, but also that some research groups will continue with a majority of either male (e.g. within economics and management accounting and control) or female members (health economics), if no specific counteracting initiatives are taken.

Diversity by nationality has increased concurrently with the staff increase. By the end of 2017 one fourth of the department research staff was of foreign nationality (guest professors not included). In total, 23 different nationalities besides Danish are currently represented among the research staff. The most diversity measured by nationality is present in the two largest research groups: Innovation, Knowledge and Economic Dynamics (IKE) and International Business Centre (IBC) (see Figure 2.6).

Figure 2.6: Nationality by Research Group 2017 (Staff Number)



2.5 Research Group Development

Every academic staff must be member of a research group. It is possible to be member of more than one research group, but very few staff have chosen to be registered as a member of more than one group. There are currently no formal restrictions on research group formation, but the various existing research groups have their own more or less formal rules for membership.

In order to better understand the current status of the existing research groups being part of the research evaluation process, it may be helpful to examine the situation up to 2010/2011 just before most of the current research group started emerging.

In 2010, tenure staff and PhD students at the department were organised in five research groups:

- Innovation, Knowledge & Economic dynamics (IKE)
- International Business Centre (IBC)
- Firms, Innovation & Relations Management (FIRM)
- Management, Accounting & Control (MAC)
- Auditing group (AUD)

However, since 2010 the composition of the research groups at the department has changed significantly due to both external and internal development factors.

Around 2010/2011 the Faculty of Engineering initiated a reshuffling of its department structure. One result of this was that a larger research group (Center for Industrial Production, CIP) with a focus on Operation Management (around 35 persons in total) moved to the Department of Business Studies (which was the name of the department at that time) and from that a new cross-faculty department,

the Department of Business and Management, was established. One productive outcome of this organisational merger is the research group, *Business Design Center (BDC)*, which started as a new research group based on members from different existing research groups. CIP continued as a separate research group, and in 2016/2017 the majority of the CIP-group members moved to a newly established engineering department, the Department of Materials and Production.

Another positive outcome of the 'CIP-period' is that a small group of management accounting researchers from CIP gradually moved to be members of the *Management, Accounting and Control research group (MAC)*. This 'agglomeration' of management accounting researchers is a key explanation of the positive development and renewal that has characterized this group since 2011.

The start of the Faculty of Medicine at Aalborg University initiated a growing interest in research and teaching activities within Health Economics, and around the same time that CIP joined the department, the research group *Danish Center for Health Care Improvements (DCHI)* was formed.

For various reasons, the research group within macroeconomics located at the Department of Political Science closed, and the responsibility to reconstruct a macroeconomic research group was moved to the Department of Business and Management. The *Macroeconomic Methodology, Theory and Economic Policy research group (MaMTEP)* started with the hiring of one full-time professor in 2011.

During 2010-11, the very small research and teaching team connected to MSc. in Auditing more or less dissolved, and strategic initiatives were taken to revitalize a new research group. During 2011-12, the *Auditing, Accounting, Advice Research Group*

(AAA) emerged with one full-time professor and enrolment of 4 PhD students during 2012 and 2013.

ORCA (Organizational Renewal and Creativity Applied) was established as a new research group in 2012 based on a merger of former members of FIRM and UKA (Unlimited Knowledge Application). UKA still forms a sub-group within ORCA.

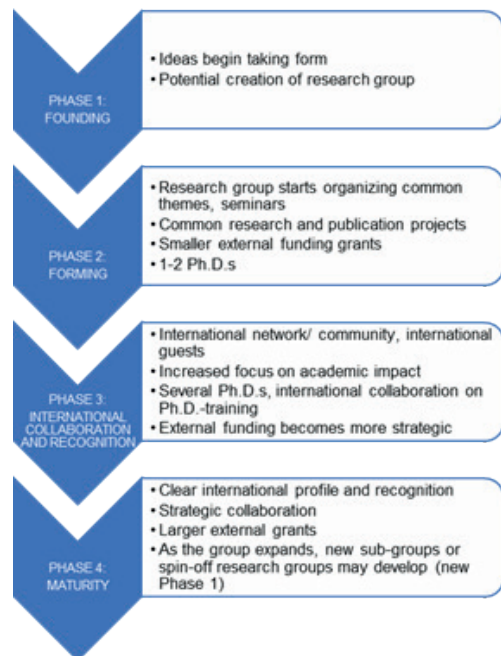
The research group on *Entrepreneurship and Organizational Behaviour (EOB)* started in 2012 as a spin-out from the IKE Group, but the research group decided to close when the founding professor moved to another Danish university at the end of 2015. The remaining members of EOB then became part of IMPAKT, IKE and BDC.

The increasing focus on socio-economic impact analysis together with ongoing political and societal discussions on the role of universities for (regional) development spurred the formation of the *Center for Impact Analyses of Investments in Knowledge and Technology (IMPAKT)* research group in 2014.

Currently, the department accommodates ten very heterogeneous research groups. They differ in research focus, size, extent of external funding, teaching areas and degree of internationalization. This heterogeneity is also reflected in the subsequent chapters for each research group. A very simple preliminary characteristic of the current stage of 'maturity' based on group history, strategy and research focus is illustrated in the maturity stage model below.

Applying the maturity stage model, the IKE Group (Innovation, Knowledge and Economic dynamics), which is celebrating its 40-year anniversary in 2017, may be classified as the most mature research group, while a group like AAA (Auditing, Accounting, Advise Research Group) is currently moving from the founding to the forming phase according to their

own evaluation report. As reflected in the individual research group chapters, most other research groups at the department are gradually moving along Phases 2 and 3.



Source: Elaboration based on Barlebo's research maturity stage model

2.6 PhD Training

The Department of Business and Management offers two PhD programmes as part of AAU's Doctoral School of Social Sciences:

- Business Economics PhD Programme
- Innovation Economics PhD Programme

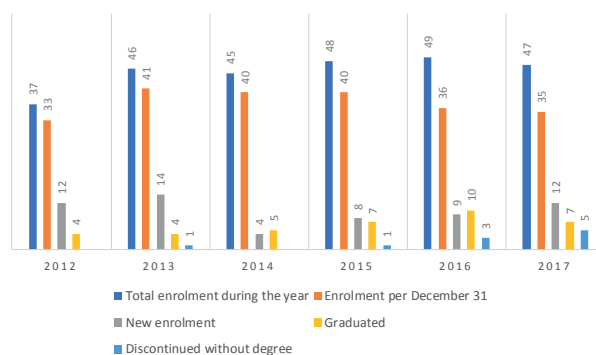
The Business Economics PhD Programme was established in 2008. Today, it is associated with the

following research groups: *Management Accounting and Control (MAC)*, *International Business Centre (IBC)*, *Auditing, Accounting, Advice Research Group (AAA)*, *Business Design Center (BDC)*, *Firms, Innovation & Relations Management (FIRM)*.

The Innovation Economics PhD programme was established in 1996 linked to the IKE research group. In recent years, new topics and research groups have been added, and the programme is currently associated with the following research groups: *Innovation, Knowledge and Economic dynamic (IKE)*, *Center for Impact Analyses of Investments in Knowledge and Technology (IMPAKT)*, *Macroeconomic Methodology, Theory and Economic Policy (MaMTEP)*, *Organizational Renewal and Creativity Applied (ORCA)*, *Danish Center for Healthcare Improvements (DCHI)*.

The Innovation Economics PhD programme is affiliated with the cross-institutional research network DRUID (Danish Research Unit on Industrial Dynamics), in which the IKE research group participates in close cooperation with the Department of Innovation and Organizational Economics at Copenhagen Business School and the Research Group for Strategic Organization Design at the University of Southern Denmark.

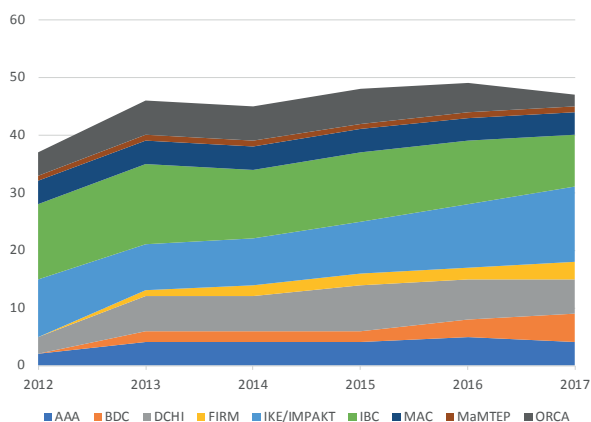
Figure 2.7: PhD Development 2012-2017



Together with the Doctoral School of Social Sciences, the Department of Business and Management organises or co-organises various PhD courses. Some course activities have been a regular event for several years, such as ‘The process of theorizing and theory building in management research’ (together with Halmstad University, Sweden, and University of Oulu, Finland) and ‘DRUID Academy’.

From 2012 to 2017, 37 PhD degrees have been awarded. Figure 2.7 shows — at the department level — the total number of PhD students that are enrolled during the year and the number of enrolled PhD students by the end of the year, the yearly new enrolment, the number of degrees and the number of students who discontinued without a degree. The number of new PhD students is closely related to external funding. Out of 12 of the newly enrolled PhD students in 2017, eight were mainly externally funded. In order to maintain the current high enrolment rate as basis for future tenure staff recruitment, external funding for PhD scholarships must be addressed in the years to come.

Figure 2.8: Total Number of Enroled PhD Students, Research Groups (2012-2017)



Note: Number of enrolled Ph.D. students includes graduated and discontinued within each year

Partly reflecting external funding, there is significant variation in the number of enrolled PhD students between the ten research groups (see Figure 2.8). The two largest research groups, IKE and IBC, counts for nearly half of the total PhD students during the entire period.

2.7 Publication

The Danish Bibliometric Research Indicator (BFI) allocates points to publications in scientific journals and selected publishers according to reputation within the field. Different reference groups at the national level — each representing a scientific discipline — decide which journals and publishers that should be included in the Danish BFI lists and on what level. Twenty percent of the journals with BFI points are classified as level 2, and 80% are classified as level 1. BFI points form parts of the basic research funding model for the Danish universities, and this has over the years increased the pressure at the level of the individual researcher and research groups to direct publications towards journals and publishers that appear on the BFI positive list. The BFI system has been criticized for not reflecting different traditions across disciplines and for making it difficult for new journals and publishers to exist if they are not able to trigger BFI points. Figure 2.9a shows the total number of BFI points allocated to the Department of Business and Management (without CIP research group), and Figure 2.9b displays the amount of BFI points per tenure staff 2012 to 2016. It is to be expected that there are some variations in BFI points over the years.

Figure 2.9a: Bibliometric Points (BFI) 2012-2016

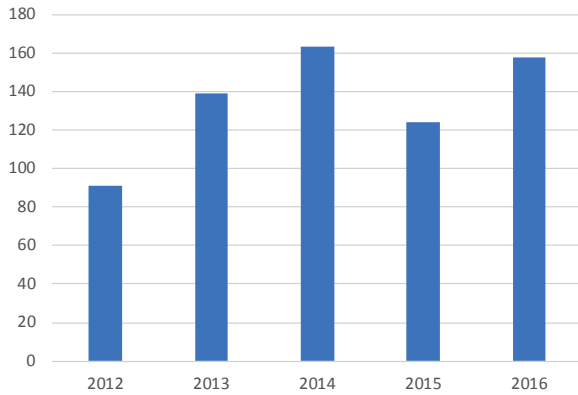
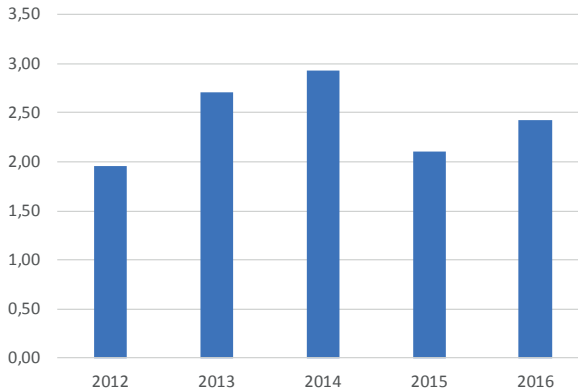


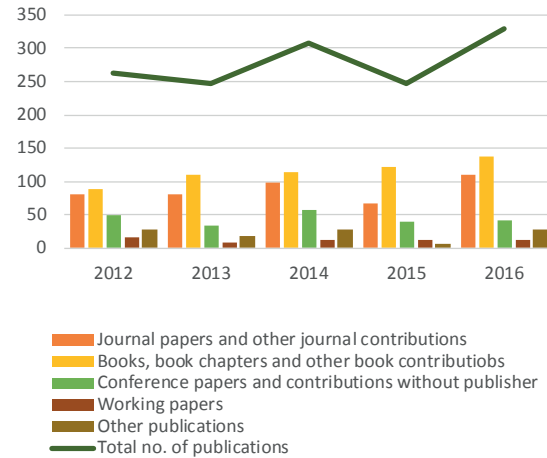
Figure 2.9b: BFI/FTE 2012-2016



Note: FTE tenure staff is here calculated without PhD students and research assistants

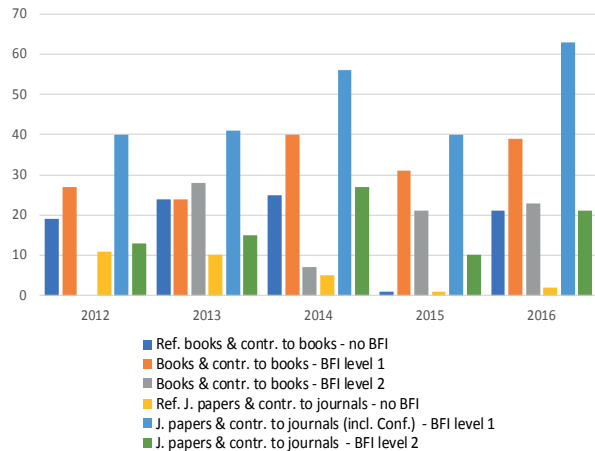
Figure 2.10 shows the development of the number of publications within different types. The number of journal papers has increased over the same period that the total number of publications has increased.

Figure 2.10: No. of Publications Split on Publication Categories, 2012-2016



If we take a closer look at the share of the peer refereed publications, Figure 2.11 shows a shift from journal papers with no BFI towards papers within levels 1 and 2.

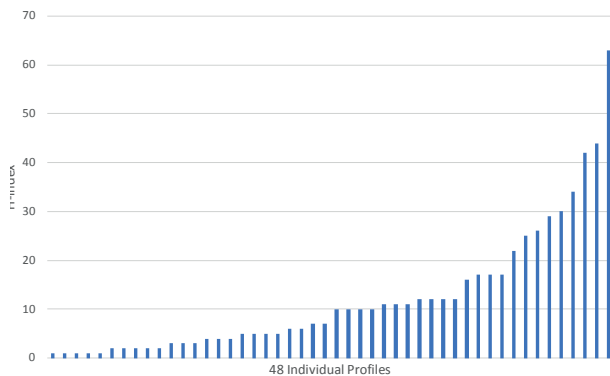
Figure 2.11: Refereed Publications and BFI Level, 2012-2016



H-indices are often used as indicators of academic impact. There are different sources of bibliometric analyses, including Scopus, Web of Sciences and Google Scholar. It is widely accepted that Scopus and Web of Sciences are both biased in that they favour engineering and medicine journals. For these reasons, the department staff h-index profiles are here calculated based on Google Scholar. All staff members are encouraged to create a Google Scholar profile. Figure 2.12 shows the individual h-index for 48 staff members with a Google Scholar profile.

In general, there is a clear relationship between academic seniority and h-index profile because the index is accumulative, but there are exceptions. Figure 2.12 indicates a high academic impact of the department's research staff with several persons, with an h-index above 20 and a peak above 60.

Figure 2.12: H-index Individual Profiles (VBN January 2018)



A frequently used academic impact indicator is the journal impact factor. However, there are (at least) three different ways to calculate journal impact factors, and the value of each of these factors varies over the years. Furthermore, there is no

simple relationship between the Danish BFI level 2 and level 1 classification and the various journal impact factors. From 2012 to 2017, the department staff published in 152 different journals with BFI classification level 2 and level 1. Appendix 2.2 includes a list of these 152 BFI journals and their three types of international journal impact factors side by side with the Danish BFI level.

2.8 Other Achievements and Events 2012-2017

Awards

At a number of occasions, members of the staff have attracted peer recognition:

In 2016, professor John Kuada (IBC group) obtained the Danish Higher Doctorate Degree in International Business Economics. The Higher Doctorate Degree is the highest Danish academic recognition of a substantial contribution within a specific area. The title of Dr. Kuada's dissertation is *'Private Enterprise-led Economic Development in Africa' (Part 1)* and *'Management Strategies and Economic Development in Ghana' (Part 2)*.

In 2016, Rasmus Lema (IKE) was selected for the Aalborg University's talent management programme. The title of the research project is *'Globalisation and Innovation in Sustainable Energy Industries in China'*.

In 2016, Alex Fomcenco (AAA) and Jimmi Normann Kristiansen (IBC) were selected for the Social Science Faculty young researcher's talent programme.

In 2017, Louise B. Kringelum (FIRM), Yimei Hu

(IBC) and Jacob Rubæk Holm (IKE) were selected for the Social Science Faculty young researcher's talent programme.

Within the evaluation period 2012-2017, several staff members have received Best Paper Award, Teacher of the Year Award, and other types of awards. The list below may not be a complete list.

Best Paper Award

- Pernille Gjerløv-Juel: 2nd place – Best Junior Paper award, ISS Conference, 2012.
- Yimei Hu: Best paper award in *Danish Journal of Management & Business*, 2012 (L&E prisen 2012).
- Roman Jurowetzki: Best Student paper, Asialics conference 2014.
- Jesper Lindgaard Christensen: Best paper in the Finance track, *Institute for Small Business and Entrepreneurship*, 2014.
- Yimei Hu: Best Paper Award, The XIII Triple Helix International Conference, 2015.
- Jacob Rubæk Holm & Edward Henry Lorenz, Editor's Choice, *Industrial and Corporate Change*, 2015.
- Niels Sandalgaard & Per Nikolaj Bukh: Outstanding Paper Award in *Journal of Accounting & Organizational Change*, 2015.
- Poul Houmann Andersen: Best paper nomination, *Journal of Purchasing and Supply Management*, 2016.
- Kim Malmbak Møller & Michael Fast, Best Paper Award, International conference on Learning and Administration in Higher Education, 2017.
- Daojuan Wang: Best paper in Track 'International HRM and cross-cultural issues', EIBA 2017
- Kenneth Mølbjerg Jørgensen, Best Critical Management Award, Academy of Management,

Critical Management Division, 2017.

- Jens Holmgren, Ole Uhrskov Friis & Jacob Kjær Eskildsen: Highly Commended Award, Emerald Publishing Group, 2017
- Romeo V. Turcan & Normann Fraser: Awards for Excellence – 2017, Outstanding Paper, *International Journal of Emerging Markets*, 2017

Teacher of the Year

- Svetla T. Marinova: Faculty of Social Sciences, AAU, 2012
- Dmitrij Slepnirov, SDC-Innovation Management, Beijing 2013
- Lasse Bork: Faculty of Social Sciences, AAU, 2014
- Yimei Hu, SDC-Innovation Management, Beijing 2015
- Jimmi Normann Kristiansen, Study Board of Business Economics & Administration, AAU, 2016
- Louise Hansen, Study Board of Medicine, Faculty of Medicine, AAU, 2016
- Dmitrij Slepnirov, Teacher of the Year, Study Board of Industry and Global Business Development, Engineering Faculty, 2016.

Other Awards

- Erik Werlauff and Jørgen Gulddahl Rasmussen received the Danish Royal Order of Dannebrog for their lifelong contribution to science and society, 2012.
- Morten Lund received Burbidge Award for Best Presentation, Conference on Advances in Production Management Systems (APMS), 2012
- Lars Gelsing received the 'AAU Matchmaker of the year', 2017.

Organisers of International Conferences 2012-2014

IBC Group

- The 4th International Business Conference, 'Revisiting Internationalisation - Dynamics, Diversity and Sustainability', May 31-June 2, 2012, Hotel Comwell Rebild Bakker, Aalborg, Denmark, organised by the IBC
- The 5th International Business Conference, June 4-6, 2014, Hotel Comwell Rebild Bakker, Aalborg, Denmark, organised by the IBC.
- The 6th International Business Conference, 'Embracing the opportunities and challenges of Globalization: from the West, the East and the South', June 1-3, 2016, Hotel Comwell Rebild Bakker, Aalborg, Denmark, organised by the IBC.

MaMTEP Group

- The Third Nordic Post-Keynesian Conference, Aabybro, May 23-24, 2014, Aalborg University, organised by the MaMTEP Research Group.
- The Forth Nordic Post-Keynesian Conference, 'Economics at the Edge', Aalborg University, April 20-21, 2017, organised by the MaMTEP Research Group.

BDC Group

- The 1st International Business Model Conference, May 18-29, Venice, Italy, organised by the BDC research group together with Ca'Foscari University.

IKE Group

Secretariat for DRUID Academy conferences and DRUID summer conferences is located in Aalborg/ IKE Group. The DRUID secretariat provides support

independently of localization of DRUID events. Below, only DRUID events in Aalborg are listed.

- DRUID Academy Conference 2013, 2014, 2015, 'Economics and management of innovation, technology and organizations', Hotel Comwell Rebild Bakker, Aalborg, Denmark, organised by the IKE Group.
- 1st Lundvall Symposium, 'Innovation studies - state of the art', Aalborg 2012, organised by the IKE Group
- 2nd Lundvall Symposium, 'Challenges for Europe in a New Age, Aalborg 2013, organised by the IKE Group
- 3rd Lundvall Symposium, 'Innovation policy – can it make a difference, Aalborg 2014, organised by the IKE Group
- 4th Lundvall Symposium, 'Innovation Systems, Globalization and Development, Aalborg 2016, organised by the IKE Group

Secretariat for Globelics conferences was located at IKE Group up to 2017. In the evaluation period 2012-2017, the Globelics secretariat has provided substantial organisational support to the local organizers of the Globelics conferences:

- 10th Globelics conference, Nov. 2012, Hangzhou, China
- 11th Globelics conference, Sept. 2013, Ankara, Turkey
- 12th Globelics conference, Oct. 2014, Addis Ababa, Ethiopia
- 13th Globelics conference, Sept. 2015, Havana, Cuba
- 14th Globelics conference, Oct. 2016, Bandung, Indonesia

Concurrently with the Globelics secretariat gradually moved to Rio (effective from 2017),

activities related to AfricaLics increased. The Copenhagen team is currently heavily involved in AfricaLics Academy and AfricaLics conference activities.

2.9 International Research Collaboration and Networks

The department supports and encourages international collaboration through different means. Support for staff outgoing activities include – as the general rule – financial support for participation in international conferences provided that papers or presentations are accepted. Furthermore, the department co-finances shorter (a couple of weeks) or longer-term (e.g. 3-12 months) research stay at other international research institutions. An international research stay at another university is typically part of a PhD project but is also a possibility that a few tenure staff members have made use of.

From 2012 to 2017 several international guests visited the department. This includes both PhD students and guest professors. A number of Chinese and African PhD students have stayed several months as part of respectively the Sino-Danish collaboration and the AfricaLics PhD visiting fellowship programmes, but also PhD students on individual agreements have selected Department of Business and Management for their research stay abroad. All research groups collaborate with international scholars. Some international guest professors are connected to the department via part time positions or via adjunct professorships, others via common research projects or – as is often the case – a combination of affiliation types that varies over time.

Together, the School of Business and Economics and the department have organized several guest

lectures for students and staff, including guest lecture by Ann L. Cunliffe, University of Bradford; Sheila C. Dow, University of Sterling; Norman Fraser, UK; JC Spender, Kozminski University; John Dumay, Macquarie University, Australien; Arlindo Villaschi Filho, Federal University of Espírito Santo (UFES), Brazil; John Child, University of Birmingham; Deo D. Sharma, Stockholm School of Economics; Stuart Morris, Henley Business School – to mention a few.

In 2011, the department/IKE group received a fulltime professor grant (12 mill. DKK) including supplementary funds for PhD, conferences, travel, etc., for a 5 years period from the Obel Family Fund. This generous research grant not only made it possible to affiliate professor Jan Fagerberg part time for the entire period, but it also made it possible for the department to invite several international recognised guest researchers for shorter visits in order to strengthen the IKE group members' international network and contribute to research workshops, seminars, conferences including the four Lundvall Symposia mentioned above. With financial support from the Obel professor grant, the following 22 international scholars visited the department from 2012(2011) to 2017:

- Dr Alexander Jean-Luc Coad, The Freeman Centre, University of Sussex
- Stephan Heblch, University of Stirling (UK)
- Associate professor Guido Bünsdorff, University of Kassel
- Associate professor Olof Ejermo, Lund University
- Professor Edward Lorenz, University of Nice Sophia-Antipolis
- Professor Bart Verspagen, University of Maastricht
- Professor Stanley Metcalfe, University of Manchester
- Professor Mirjam van Praag, University of Amsterdam
- Professor Sara D. Sarasvathy, Darden School of

Business

- Professor Ammon Salter, Imperial College London
- Professor David Waguespack, University of Maryland
- Associate Professor Lamar Pierce, Olin Business School, Washington University
- Professor Peter Skott, University of Massachusetts Amherst, USA
- Professor Ben Martin, SPRU, University of Sussex
- Professor Fredric Delmar, School of Economics and Management, Lund University
- Professor Rune Fitjar, University of Stavanger Business School
- Professor Christina Günther, WHU, Vallandar, Germany
- Professor Grazia Santangelo, Jean Monnet Chair International Business for European Union, Department of Political and Social Science, University of Catania, Italy
- Associate professor Martin Srholec, CERGE-EI, Prague & CIRCLE, Lund University
- Professor Björn Asheim, Stavanger University
- Dr. Padmashree Gehl Sampath, Science and Technology Section, Division for Technology and Logistics, UNCTAD Geneva and United Nations University – MERIT
- Daniel Raff, The Wharton School of Business, University of Pennsylvania and NBER.

In 2016, the Velux Visiting Professorship programme ensured a three months guest visit by professor Hamid Moni, affiliated to the IBC group.

In 2017, a new grant from The Obel Family Fund Visiting Professorship programme ensured a three years part time affiliation of professor Edward Lorenz (IKE Group).

In general, the department has provided funding for affiliation of part time positions for a number of

international scholars in order to strengthen research and international collaboration at the research group level, see the individual research group self-evaluation reports for more detailed information.

Furthermore, international collaboration is strengthened via affiliation of adjunct professors. Within the period 2012 to 2017, the group of international adjunct professors includes:

- Professor Nancy Napier, Boise State University, USA
- Professor Nigel Holden, University of Leeds, UK
- Professor George Tesar, University of Wisconsin-Whitewater, USA
- Professor John Child, University of Birmingham, (in 2016, Professor John Child was appointed as Honorary doctor at the Faculty of Social Sciences, AAU)
- Professor Richard P. Bagozzi, University of Michigan, USA
- Padmashree Gehl Sampath, Division for Technology and Logistics, UNCTAD Geneva
- Professor Edward Lorenz, University of Nice-Sophia Antipolis, France.

Over the years, the department has taken part in several international student exchange agreements. However, lately, more emphasis is put in securing that student exchange agreements are accompanied by research activities and PhD exchange. With that follows, that the research groups and the department undertake a more long-term and strategic approach to international collaboration agreements.

2.10 Department Strategy: 2016–2021

The overall purpose of the 2016–2021 Department Strategy is to support activities and objectives which cut across the individual research groups and study programmes in order to provide opportunities for the

development of new and existing activities at both the individual and the group level with respect to the interests of the department and the university as a whole. The department strategy is in accordance with the strategies of the Social Science Faculty and the University.

The 2016–2021 Department Strategy is organised into five interconnected sections:

1. Research and research training (PhD)
2. Research-based teaching and PBL
3. Networks and external collaboration
4. Working and study environments
5. Administrative organisation

For each main theme, strategic objectives have been outlined, and action plans have been drawn up for the period of 2016–2021. There are clear links and interdependency between all five focus areas. Well-functioning administrative organisation and support is key for research and project management. A good social working environment stimulates collaboration, a high coherence between teaching and research creates mutual synergy and establishing and maintaining strategic networks and external collaboration is key for both research content and funding possibilities. However, this evaluation report mainly focuses on the strategic aims and activities within research and research training (see textbox below).

2.11 Key Challenges for the Future

As documented above, the department has undergone significant changes in both quantitative and qualitative terms during the evaluation period of 2012–2017. For the coming five years, the department has established a new overall strategic target to

transform into a Business School presumably within the EQUIS accreditation framework. This overall target may prompt new challenges and underline necessary solutions to existing challenges.

One existing challenge is to obtain a better balance between teaching and research. There are different elements involved in this. One element is the continued recruitment of tenure staff to reduce the high teaching and coordination load on existing tenure staff. Another element related to this is to look further into new ways of organizing teaching and supervision activities, including increasing the connection between teaching and research areas. At the master level, the current direct relationship between research groups and master's programmes delivers part of the solution, but especially at the bachelor level with large cohorts of students and a relatively high share of external teaching staff, both rethinking and recruitment of tenure staff are necessary.

Currently, the department and most research groups are involved in a broad range of third mission activities and capacity building at the local or/and the global level, and the pressure from various external communities for the department to get even more engaged is increasing. This is of course to be seen as a positive outcome of relevant research and teaching performed by the department, but it also calls for strategic reflections at the group and the department level, on how to balance and create more synergy between external collaboration, research and teaching.

Historically, the department has been relatively successful in receiving external funding. However, as basic research funding tightens, the pressure for external funding increases. Securing a high and increasing amount of external funding is a critical challenge for the department. This is amplified by

Research and research training (Ph.D.) (From department strategy 2016-2021):

Development and evaluation of research groups at the department

- During the period, the department will evaluate its research profile to identify new research initiatives.
- All research groups have drawn up a strategy for the group's development and academic profile and a plan for appropriate internal or external research group evaluation and have conducted their first round of research group evaluations.
- A long-term recruitment plan will be drawn up at the department level; the plan will consider the teaching needs and the strategic development of the research groups.

Publication and dissemination

- The total number of publications per full-time equivalent will be increased during the period.
- The department will develop the infrastructure and support required to ensure publication and dissemination of the department's research, including funds for language revision, publication workshops targeted at young researchers in particular, seminar activities, conference attendance and events to which external collaboration partners will be invited.

Acquisition of external funds and participation in major (interdisciplinary) research projects

- The department must maintain the acquisition of external funding at a high level.
- The department will participate in at least one of the university's interdisciplinary research projects.
- The department will establish mechanisms and incentives at the individual and research group levels for the support of external funding activities.
- The department will enhance internal quality assurance procedures for external research applications, including systematic collection of feedback.

Talent management

- The department will support talents from various fields to ensure that the overall talent management reflects the diversity of activities at the department, including research, teaching, networking and funding.

Research training

- During the strategy period, the total PhD intake must be maintained at the 2015 level as a minimum.
- All PhD students will be included in a well-functioning academic and social research and teaching environment.
- The department will develop one obligatory PhD course, as a minimum, for PhD students at the department

the fact that the lion's share of the department's external funding has been provided by few research groups and is concentrated on a couple of larger grants. It is necessary in the coming years that more research groups — as they consolidate — contribute to external funding of PhD students, research assistants and tenure positions with research obligations. Supporting applications for external funding from different sources is an important responsibility at the department level.

One of the objectives behind the current research evaluation is to use both the process and the result as a platform to initiate further collaboration and interaction between the various research groups. Seen from the department level, there is potential collaboration and interaction in relation to teaching, PhD training and research projects and applications. Harvesting those potentials may be one of the keys to securing a better balance at the individual, group and department levels between research and teaching and a potential platform for external funding applications.

With this overall description and view at the department level, the following ten chapters present the self-evaluation report from each individual research group. Within the overall evaluation template and page limits, the research groups have had a high degree of freedom in how they present their research focus and activities, which is reflected by their heterogeneity.

2.12 Panel Evaluation [to be completed during the visit]

Observations

Recommendations

Appendix 2.1: Overview of Study Programmes

SCHOOL OF BUSINESS & ECONOMICS	
Bachelor's programmes 3 years (180 ECTS)	Master's programmes 2 years (120 ECTS)
BSc. in Economics (in Danish)	MSc. in Economics
	<ul style="list-style-type: none"> Economics (in Danish) Innovation, Knowledge and Economic Dynamics (MIKE-E)
BSc. in Business Economics and Administration (HA) (in Danish)	MSc. in Business Economics and Administration
	<ul style="list-style-type: none"> Organization and Strategy (in Danish) Management Accounting (in Danish)
	<ul style="list-style-type: none"> International Business Economics International Marketing
	<ul style="list-style-type: none"> Innovation, Knowledge and Entrepreneurial Dynamics (MIKE-B) Innovation Management (SDC, Beijing)
BSc. in Business Economics and Administration	MSc. in Auditing (in Danish)
	Specialized semester programmes (30 ECTS)
	<ul style="list-style-type: none"> Creative Genius New Venture Creation Corporate Entrepreneurship

AAU EXECUTIVE, SCHOOL OF BUSINESS & SOCIAL SCIENCES (PART TIME PROGRAMMES)	
Graduate Diploma in Business Administration (HD) (in Danish) (30+30 ECTS)	
Graduate Diploma in Business Administration, Part 1 (HD 1. del), (in Danish)	Graduate Diploma of Business Certification, Part 2 (HD 2. del), (in Danish)
	<ul style="list-style-type: none"> Financial planning Organization and Management
	<ul style="list-style-type: none"> Financial and Management accounting
Master of Business Administration (MBA) (in Danish) (60 ECTS)	
1 st year: Certificate of Business Administration (CBA) (in Danish)	2 nd year: Master of Business Administration (MBA) (in Danish)

Appendix 2.2: Journal Impact Factors (latest available) for BFI listed journals including publications by Department of Business and Management staff, 2012-2016.

Comments:

The list is sorted by BFI level (Level 2 on top), column no. 5.

SNIP measures a source's contextual citation impact by weighting citations based on the total number of citations in a subject field.

CiteScore (CS) is the average citations per document that a title receives over a three-year period.

SCImago Journal Rank (SJR) is weighted by the prestige of a journal. Subject field, quality, and reputation of the journal have a direct effect on the value of a citation.

Journal title	snip	cs	sjr	BFI level	No. of publ.
Value in Health	1,648	3	1,868	2	9
Industrial and Corporate Change	1,545	2,34	1,835	2	8
Journal of Evolutionary Economics	0,731	1,09	0,748	2	7
Research Policy	3,271	5,62	3,625	2	5
Small Business Economics	1,969	3,47	2,15	2	4
Science and Public Policy	0,875	1,77	0,672	2	4
Regional Studies	1,937	2,75	2,038	2	4
Industrial Marketing Management	1,676	3,38	1,83	2	2
Journal of Economic Geography	2,318	3,67	3,473	2	2
Stroke	2,349	4,94	3,407	2	2
International Journal of Medical Informatics	2,027	3,7	1,215	2	2
Management Science	2,579	3,62	3,885	2	1
American College of Cardiology. Journal	5,675	7,96	11,488	2	1
British Journal of Anaesthesia	2,467	3,46	2,255	2	1
Journal of International Management	1,453	3,34	1,849	2	1
Creativity and Innovation Management	1,186	1,9	0,681	2	1
European Journal of Education	1,397	1,31	0,685	2	1
European Journal of Cardiovascular Nursing	0,822	1,89	0,929	2	1

International Journal of Forecasting	2,21	2,45	1,685	2	1
Social Science & Medicine	1,737	3,25	1,739	2	1
European Journal of Public Health	1,362	2,49	1,432	2	1
Management Learning	1,201	2,01	1,118	2	1
American Journal of Human Genetics	2,482	8,43	7,143	2	1
Management Accounting Research	3,479	4,49	2,494	2	1
Global Environmental Change	2,818	7,62	3,507	2	1
International Small Business Journal	2,356	4,4	1,819	2	1
Occupational and Environmental Medicine	1,603	2,62	1,623	2	1
Journal of Business Ethics	1,493	2,23	1,165	2	1
Administrative Science Quarterly	3,025	5,83	10,72	2	1
Journal of Cleaner Production	2,382	5,83	1,615	2	1
Marine Policy	1,182	2,7	1,335	2	1
Circulation	2,457	8,41	5,735	2	1
Industry and Innovation	0,768	1,16	0,66	2	1
Economic and Industrial Democracy	1,032	0,85	0,602	2	1
Forensic Science International	1,336	2,32	1,078	2	1
Computer Supported Cooperative Work	2,082	3,47	0,751	2	1
RNA	1,031	3,69	3,529	2	1
Scandinavian Journal of Management	1,035	1,72	0,845	2	1
International Journal of Technology Management	0,622	1,25	0,45	2	1
Journal of Business Venturing	4,036	8,8	5,771	2	1
African Journal of Economic and Management Studies	0,631	0,51	0,244	1	6
International Journal of Business Governance and Ethics	0,687	0,55	0,228	1	4
ClinicoEconomics and Outcome Research	1,003	2,18	0,861	1	3
Ekonomiska Samfundets Tidskrift	0	0	0,101	1	3
PharmacoEconomics	0,103	2,84	0,122	1	3
Advances in International Management	0,273	0,37	0,483	1	3
Innovation and Development	0,023	0,28	0,16	1	3
Implementation Science	1,746	3,63	1,926	1	3
Journal of Medical Economics	0,822	2,02	0,945	1	3

Innovation (Abingdon)	0,626	0,88	0,292	1	3
Scandinavian Cardiovascular Journal	0,467	1,04	0,125	1	2
Trials	0,853	2,04	1,186	1	2
Innovation: Management, Policy & Practice	0,584	0,85	0,257	1	2
Structural Change and Economic Dynamics	1,35	1,41	0,608	1	2
Journal of Accounting and Organizational Change	0,602	0,7	0,311	1	2
European Journal of Innovation Management	1,152	2,19	0,54	1	2
African Journal of Science, Technology, Innovation and Development	0,004	0,05	0,114	1	2
Lecture Notes in Business Information Processing	0,436	0,47	0,221	1	2
Accounting Forum	1,275	1,53	0,675	1	2
Danish Medical Bulletin (Online)	0,528	0,92	0,415	1	2
Scandinavian Journal of Public Health	0,773	1,34	0,757	1	2
Baltic Journal of Management	0,567	1,11	0,304	1	2
Journal of Intellectual Capital	2,283	3,05	0,715	1	2
International Journal of Entrepreneurship and Small Business	0,658	1,02	0,38	1	2
Journal of International Entrepreneurship	0,972	1,8	0,643	1	2
Osteoporosis International	1,486	3,35	1,447	1	2
Journal of Telemedicine and Telecare	0,921	1,87	0,694	1	2
Journal of Applied Business Research	0,433	0,31	0,203	1	2
Management & Organization Review	1,431	1,86	0,948	1	2
Thunderbird International Business Review	1,147	1,51	0,925	1	2
P L o S One	1,092	3,11	1,201	1	2
Gender, Technology & Development	0,77	0,53	0,236	1	1
Economia e Politica Industriale	0,323	0,36	0,172	1	1
Computers in Biology and Medicine	1,031	2,13	0,547	1	1
Management Decision	1,045	1,78	0,613	1	1
British Accounting Review	1,754	2,25	0,746	1	1
Social Indicators Research	1,326	1,76	0,914	1	1
Journal of Asthma	0,779	1,71	0,67	1	1
Review of Keynesian Economics	0,937	0,52	0,533	1	1

Innovation Journal	0,347	0,38	0,215	1	1
Annals of Thoracic Surgery	1,315	1,68	1,376	1	1
Journal of African Business	0,571	1,11	0,45	1	1
Problems and Perspectives in Management	0,318	0,25	0,145	1	1
Transforming Government	1,226	2,17	0,608	1	1
New Educational Review	0,615	0,2	0,219	1	1
B.E. Journal of Macroeconomics	0,272	0,36	0,312	1	1
Industrial Health	0,997	1,32	0,53	1	1
Metroeconomica	0,685	0,49	0,575	1	1
Ugeskrift for Laeger	0,041	0,02	0,11	1	1
European Journal of International Management	0,448	0,96	0,407	1	1
BMJ Open	1,252	2,66	1,446	1	1
European Management Review	0,711	1,74	0,925	1	1
Journal of Technology Transfer	1,376	2,35	1,254	1	1
Technological Forecasting and Social Change	1,635	3,03	1,247	1	1
International Journal of Retail and Distribution Management	1,028	1,9	0,472	1	1
Europace	1,57	2,78	2,363	1	1
Health Technology Assessment	1,863	3,91	1,848	1	1
International Journal of Disclosure and Governance	0,499	0,38	0,219	1	1
Economics of Innovation and New Technology	0,937	0,99	0,62	1	1
Clinical Respiratory Journal	0,579	1,24	0,511	1	1
International Journal of Technological Learning, Innovation and Development	0,254	0,32	0,13	1	1
Public Money and Management	0,918	1,03	0,544	1	1
International Journal of Entrepreneurial Venturing	0,436	0,68	0,256	1	1
Journal of Business Economics and Management	0,669	1,01	0,27	1	1
Telemedicine and e-Health	0,674	1,06	0,481	1	1
Journal of Transnational Management	0,35	0,52	0,211	1	1
International Journal of Technology and Globalisation	0,167	0,12	0,101	1	1
Journal of Historical Research in Marketing	0,661	0,82	0,391	1	1
Critical Perspectives on Accounting	1,067	1,7	1,204	1	1

Nordic Journal of Psychiatry	0,682	1,44	0,724	1	1
International Journal of Economics and Business Research	0,084	0,07	0,113	1	1
Journal of Economic Surveys	2,488	2,77	1,724	1	1
International Entrepreneurship and Management Journal	1,151	2,2	0,685	1	1
International Journal of Innovation Management	0,876	1,25	0,57	1	1
Organizational Dynamics	0,942	1,29	0,79	1	1
International Journal of Technology Assessment in Health Care	0,891	1,37	0,656	1	1
Journal of Theoretical and Applied Electronic Commerce Research	1,204	1,98	0,353	1	1
International Journal for Quality in Health Care	1,822	2,81	1,371	1	1
International Journal of Mobile Communications	1,005	1,81	0,57	1	1
British Food Journal	0,756	1,47	0,466	1	1
European Journal of Marketing	1,337	2,28	1,003	1	1
International Review of Applied Economics	0,844	0,79	0,4	1	1
Health Education Journal	0,482	0,78	0,365	1	1
Management Research Review	0,872	1,35	0,378	1	1
Scandinavian Journal of Caring Sciences	1,159	1,53	0,631	1	1
Economics Letters	0,778	0,78	0,702	1	1
European Journal of the History of Economic Thought	1,224	0,56	0,832	1	1
International Journal of Lifelong Education	0,524	0,7	0,436	1	1
Competitiveness Review	1,053	0,91	0,266	1	1
Journal of Purchasing & Supply Management	1,837	4,61	1,925	1	1
Transfer	0,724	0,68	0,649	1	1
Personality and Social Psychology Bulletin	1,666	3,3	2,391	1	1
Oxford Bulletin of Economics and Statistics	1,466	1,53	1,167	1	1
Thinking Skills and Creativity	1,532	2,03	0,837	1	1
International Journal of Learning and Intellectual Capital	0,559	0,89	0,226	1	1
Allergy	2,475	6,23	2,724	1	1
Journal of the Knowledge Economy	1,326	1,48	0,534	1	1
Colorectal Disease	1,143	1,95	1,146	1	1
Journal of Macromarketing	0,985	1,44	0,721	1	1

International Journal of Emerging Markets	0,516	0,82	0,26	1	1
Risk Management and Healthcare Policy	0,801	1,72	0,534	1	1
International Journal of Integrated Care	1,265	2,07	0,838	1	1
Sustainability Accounting, Management and Policy Journal	0,975	1,34	0,433	1	1
Foresight (Cambridge)	0,867	0,75	0,324	1	1
International Journal of Stroke	1,157	2,45	1,659	1	1
International Journal of Public Sector Management	0,663	0,87	0,26	1	1
Nursing and Health Sciences	1,377	1,81	0,76	1	1
Studies in Health Technology and Informatics	0,306	0,4	0,248	1	1
Tertiary Education and Management	0,559	0,91	0,313	1	1
Lecture Notes in Computer Science	0,317	0,67	0,162	1	1
Higher Education Quarterly	1,042	1,03	0,608	1	1
Applied Economics Letters	0,511	0,52	0,354	1	1



3. Innovation, Knowledge and Economic Dynamics (IKE)

Executive Summary

The IKE-group focuses on understanding economic and industrial dynamics at different levels of aggregation, paying special attention to the economics and management of knowledge and innovation. In particular, IKE has contributed to both empirical and conceptual understanding of innovation processes, e.g. introducing the 'National Innovation System' concept and analyses.

The IKE group has 32 academic staff and 4 admin staff. This includes 7 PhD students.

Established in 1977, IKE is the oldest research group at Aalborg University. IKE's long history indicates the capacity of the IKE group to develop and make contributions to changing research agendas. Throughout this forty-year period, IKE has been successful in several respects: The group has been highly productive in terms of publication outputs in high-quality outlets, and publications from IKE are generally well-cited. During the evaluation period, 82 journal papers, 6 books, and 68 book chapters were registered in VBN. The number of BFI points per FTE is above the Department average. Systematic bibliometric studies indicate that IKE is recognized as a top-ten research group in innovation studies in the world.

IKE has established a conducive environment for PhD training, and the PhDs graduating from IKE have pursued impressive academic careers. Among peers, IKE is also recognized for our active participation in international networks, notably DRUID and Globelics. The high quality

and relevance of our research have enabled IKE to attract external funding to a degree which is substantially higher than the Department average. During the evaluation period 2012-2016, 41% of granted funds for the entire Department came from IKE-projects. External funds per full time research staff amounted to close to DKK 600,000 in 2016.

The self-evaluation demonstrates IKE's academic impact, but it also demonstrates the societal impact of IKE in both a Danish and an international context, including its contribution to research capacity building in developing countries.

In sum, the self-evaluation report finds that IKE is a thriving and well-performing research group, but also points out dilemmas causing IKE to reflect on what directions to take. One issue is to establish a good match between the research directions that the group wants to take and the opportunities for fundraising and staff development. Another question is how to combine the formation of sub-groups with a certain degree of autonomy with a common research agenda for the group as a whole. It is considered of utmost importance to maintain activities that contribute to the coherence of the IKE group. The report highlights some of these common activities, such as IKE seminars, joint research projects etc. In particular, a new research project on inclusive innovation could potentially become an important com-mon activity. Other possible measures to tackle these challenges are elaborated in section 3.5.

3.1 Research Profile

The IKE Research Group

IKE is a research group focusing on studies of innovation, knowledge and economic dynamics at different levels of aggregation. The broad foundation of the group is the interdisciplinary field of innovation studies. IKE researchers agree that economic development and change are knowledge driven, and knowledge creation and innovation are seen as reflecting processes of interactive learning within systemic frameworks. Interactions between actors at and between different levels of aggregation, i.e. organizational, regional, national, super-national, are regarded as fundamental driving forces in the creation, implementation, and diffusion of new technologies, products, processes, and organizational structures. Such processes of change are bounded and facilitated by the formal and informal political and institutional configuration of the system/context in which they unfold.

The IKE group celebrated its 40 years anniversary in May 2017 and is the oldest existing research group at Aalborg University. IKE has made major contributions to the progression towards an understanding of innovation dynamics, often by combining analysis of micro- and macro-aspects of economic evolution. Below an overview is found of major changes in the history of IKE.

As is evident from the research perspectives in the table above, IKE members' research draws on a broad set of related fields, such as organization studies, economic geography, development studies, economics, entrepreneurship, and small firm development. The specific sub-themes in IKE research are included in Figure 3.1 (see more elaborate descriptions of sub-themes at the IKE web page).

IKE Research Themes

Figure 3.1: IKE research, core and sub-themes



IKE has the ambition to maintain and enhance the groups' position as an internationally recognized innovation research group and to make an impact on academic research as well as in specific societal problem areas such as capability development, industrial dynamics, innovation policies, and regional inequalities and development. Moreover, the IKE group will continue to make substantial contributions to PhD training and university teaching in innovation and industrial dynamics and related fields. Teaching and research capacity development activities are considered an important part of influencing society; moreover, graduate and post-graduate candidates

with a good understanding of innovation, knowledge and economic dynamics in different contexts may contribute to enhanced decision-making and a more sustainable and inclusive development.

Among the core values of the IKE group is having an attractive workplace. We aim at ensuring this by providing a supportive and friendly work environment that allows its members to continuously improve the quality of their administration, research and teaching activities.

Timeline

	Events, Funding and Major Projects	Research Perspective /Main Sub-field added
1977-1979	<ul style="list-style-type: none"> • IKE founded as research base for the Master program in Economics • Grant from the social sciences research council. 	Structural economics and policy studies
1980-1989	<ul style="list-style-type: none"> • MIKE project and Freeman as visiting professor • Developing the understanding of innovation as an interactive process • PIKE Project linking productivity to organizational change and skills 	Evolutionary economics and management of innovation
1990-1999	<ul style="list-style-type: none"> • Publications on national innovation system • SUDESCA project • Formation of DRUID • DISKO project • Impact upon policy agenda 	Evolutionary economics, business economics
2000-2009	<ul style="list-style-type: none"> • Consolidation and diversification of research • Globelics adding development issues to the research agenda • ACE project • NJK project • (CRU) (cross-dept) 	Regional economics, Entrepreneurship studies and Development Studies
2010-now	<ul style="list-style-type: none"> • Generational shift – founding members of the group gradually withdraw and new members arrive with new ideas, methods and tools. • Major projects: GONE, IREK, ReDy (cross-dept), EIS, RUNIN, GINSEC, Africalics 	<ul style="list-style-type: none"> • Management • Organizational behavior and change • Network analyses • Sustainability and inclusive innovation.

3.2 Organization, Composition and Financing

Current Research Staff as of 31 December 2017

Professors

Bengt-Åke Lundvall (20 %)
Esben Sloth Andersen (10 %)
Poul Houman Andersen, IMPAKT as main affiliation
Christian Richter Østergaard, IMPAKT as secondary affiliation

Part-time professors with main employment outside of the Department

Jan Fagerberg (10 %)
Roberta Rabellotti (20 %)
Edward Lorenz (10%)

Associate Professors

Jesper Lindgaard Christensen, research group leader,
Björn Johnson (20 %)
Birgitte Gregersen, Head of Department 2010-2017
Ina Drejer, IMPAKT as main affiliation
Jacob Rubæk Holm, IMPAKT as secondary affiliation
Yariv Taran
Jørgen Stamhus
Rasmus Lema
Bram Timmermans (10 %)
Gert Villumsen
Max Rolfstam (20 %)
Morten Munksgaard Møller

Senior Advisor

Margrethe Holm Andersen

Assistant Professors

Daniel Hain
Eun Kyung Park
Roman Jurowetzki
Annemarie Østergaard, BDC as main affiliation

Postdocs

Jorrit Gosens

PhD Students

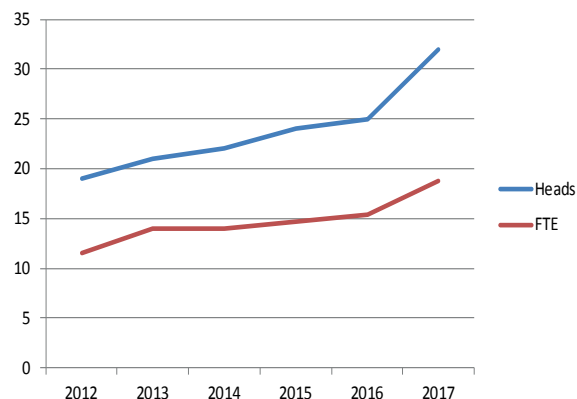
Cecilia Theresa Gregersen

David Fernández Guerrero
Gerrit Willem Evers
Marija Rakas
Shagufta Haneef
Jesper Eriksen
Primož Konda

Staff Development

The IKE group currently consists of 32 academic staff and 4 admin staff. This includes 7 PhD students.. Figure 3.2 shows the staff development over the years from 2012 until today¹.

Figure 3.2 Research Staff Development 2012-2017, Heads and FTE



The university as such has grown during this period, and the table also shows a gradual increase, especially if counted in heads. The full professor staff appears unchanged, but has in fact varied in composition over time. For this and other staff categories, there has been response to when gaps have been foreseen. There is a male dominance (19/8, not displayed here), which is also the case throughout the Department. Half of the members

¹Some members have held dual memberships during the evaluation period.

are Danes, and a third is from other EU countries. Two thirds graduated with a Master's degree from AAU, and of those who obtained a PhD degree, three quarters graduated from AAU. The average age is stable around 45-46 years. We are conscious about the positive importance of diversity in the group regarding gender distribution and other dimensions. The recruitment policy has aimed to not only secure smooth integration in the group and a match of competences with existing competences, but also to avoid making clones of ourselves.

As the only research group at the Department, the IKE-group has established a section at the AAU campus in Copenhagen. This section consists of six IKE staff and is particularly focused on the Innovation and Development research theme in particular projects such as the IREK-project, the GINSEC, and Globelics/Africalics.

The overall management of the IKE group is conducted by a coordinator (Associate Professor Jesper Lindgaard Christensen) assisted by a small committee (Christian Østergaard, Rasmus Lema, Poul Houmann Andersen). In addition, a yearly two-day strategy seminar is held for the whole IKE group to discuss progress and challenges related to research and other strategic issues of relevance to the group. Separate meetings are held for the group of staff directly involved in teaching tasks related to MIKE, with Jacob R. Holm as the program coordinator. Professor Christian Richter Østergaard is head of the Innovation Economics PhD program. Members of the group organize themselves according to interest, but IKE is striving to maintain the internal coherence of the group by embarking on a number of common activities. For example, the IKE group organizes a series of research seminars, co-publish, and establish common projects (see elaboration later).

3.3 Strategies, Activities, Output and Academic Impact

IKE's main ambition is to maintain and enhance the position as an internationally recognized research group within the fields of innovation and industrial dynamics, while making an impact on academic research and on society in general. IKE will fulfill this mission through:

- a continuous focus on producing high quality research publishable in core journals,
- participating in formal and informal international research networks,
- making substantial contributions to PhD training at Aalborg University as well as in national and international innovation and industrial dynamics communities in general
- securing adequate staff to the group
- making substantial contributions to current and future teaching in innovation, industrial dynamics and related fields at Aalborg University,
- a conscious effort to attract external funding and secure a funding pipe-line aimed at developing IKE's core research areas
- continuous attention to interaction with stakeholders/users.

Below these measures are unfolded.

Publication

IKE has a stable and high level of publication output, and IKE researchers are among the most cited researchers at Aalborg University. IKE publications are also often downloaded from Aalborg University's research portal VBN. During the evaluation period, 82 journal papers, 6 books, and 68 book chapters

were registered in VBN. IKE's publication output includes what we consider a satisfactory production of BFI points. IKE produced 25 journal papers in 2016, increasing from 13 at the beginning of the period (2012). Moreover, 40 BFI points were produced in 2016, amounting to 3.5 per FTE. This is a relatively high number compared to the Department in general (2.4 per FTE). If grouped according to the British ranking of journals, table 2 shows that many papers are accepted by good outlets.

IKE is recognized as a leading research group in innovation studies in Europe and the world. According to a research paper exploring the knowledge base and core of innovation studies, the top-ten research groups in the world since 1950 are dominated by US universities. Only SPRU (2nd rank) (the UK) and IKE (9th rank in the world) are non-US core institutions in innovation studies.

Figure 3.3: No. of Publications Split on Publication Categories

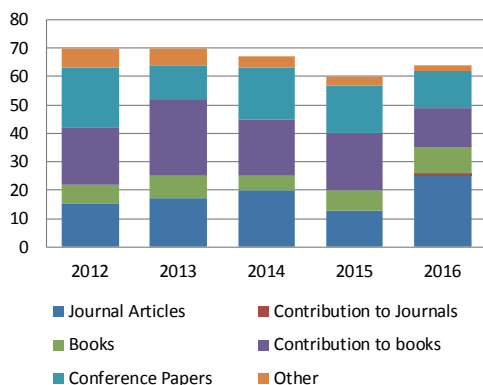


Table 3.1: Journal publications 2012-2017 split on journal rankings according to the REF categories

REF Cat. stars	1	2	3	4	N/A
No. of papers	3	27	29	7	39

IKE's high publishing rate is the result of our decade-long focus on publishing in high-quality peer-reviewed outlets. According to a survey among IKE members, the journals in which IKE should ideally publish includes Research Policy, ICC, Industry and Innovation, and Regional Studies. These journals are also currently among the most frequent outlets of IKE research. IKE continues to work on promoting the research quality of its members by collaborating with and commenting on each other's research. Publication support is also institutionalized in different ways. Ongoing and valuable IKE activities to stimulate high-quality publishing include the following:

- The IKE seminars, which are an important forum for a) presenting work in progress and relating this to the individual publication strategy/paper portfolio; and b) receiving comments on the specific paper presented. IKE seminars are also a forum for visiting scholars to present their work and thereby contribute to enriching IKE research by providing new input.
- The 'Publication Clinique', which is a forum for focusing more in depth different themes in the publishing process. Using cases from individual papers, themes for publication clinics include how to deal with reviewer responses, how to write a good introduction, and how to find the best outlet for papers.
- A joint information board and door posters which display publications and their progress in the pipeline provide information both for outsiders and colleagues within the research group.
- The yearly IKEstrategy seminar where each individual IKE-members present a list of completed papers/publications during the past year and a paper pipeline for the coming year as input to a discussion on publication strategies on individual and group levels.

The activities for publication support are based on a process view of publication, acknowledging the several steps involved before the dissemination (writing) of the final (journal) papers, cf. the Vancouver guidelines on this. The extended and long-standing tradition for collaboration and co-authorship in IKE should be maintained, and preferably also enhanced, since this supports the quality of research and the publication process. Looking into the co-authorship of IKE members, it is clear that over the evaluation years, the share of solo-authored papers has decreased, from 31% in 2012 to 17% in 2015 and 23% in 2016. Moreover, more than half of the papers (62 % in 2016) were written together with co-authors from outside of the IKE group. IKE researchers rarely write with people outside of academia. Exploring if this is an untapped potential might be considered.

IKE members have strong networks of collaboration with researches outside of the research group, not least as a way to receive external feedback and inspiration. Therefore, the IKE group expects that members present papers at international conferences and interact with external researchers in different ways. Our continued active involvement in the DRUID network and conferences is a particularly important activity. Continued financial support to DRUID and participation in DRUID conferences by the Department has been crucial.

Another often neglected but important issue is the dissemination of already published research results and/or the drawing of attention to ongoing research. IKE intends to enhance its efforts to make our research accessible and visible; e.g. by considering if social media should be used. The production of policy briefs based on existing research is another option to be considered.

Active engagement in research projects produces both reports and data that may provide a basis

for further publication efforts. When choosing and prioritising projects to engage in, we always take into consideration that in the long-term these should result in scientific publications.

It is also important to maintain IKE members' active involvement in reviewing for journals, participating on editorial boards, interacting with journal editors and peers, organize conferences and seminars etc. Such activities are vital in the overall positioning of the group in the research community and for opening doors, e.g. in relation to invitations to collaborative projects and funding opportunities. However, as research time is under continuous pressure from for instance administrative duties and networking tasks, since all non-teaching activities have to be carried out during "research time", the time required for these activities constitutes a barrier to more active involvement, even if we do see untapped potentials in further active participation in for instance journal editorial boards. Compensation granted by the Department (or Faculty) in the form of hours deducted from teaching obligations for a specific part of such activities that are not already compensated for would be very valuable.

Research Training (PhD)

IKE is heavily involved in PhD training and has for many years been successful in educating PhDs. Some of our PhD training was previously formalized in international collaborations such as ETIC and DOME, but is now, as regards externally embedded PhD training, primarily related to the DRUID Academy. The group strives for at any time to have several PhD students, preferable around 5-6, in order to secure a good working environment for the PhD students and a good pipeline of potential future researchers in the group. We currently have 9 enrolled PhD students (of the 35 in the entire

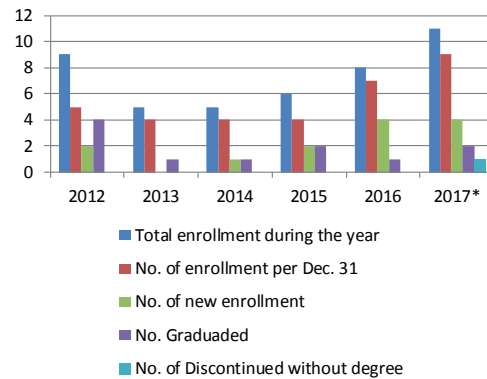
Department). The number of PhD students should also be measured against the potential job market, not only the internal work environment and recruitment.

The PhD students are embedded in the IKE group and participate as regular staff members. They participate in regular IKE seminars, DRUID activities and international conferences and are expected to present their work at IKE seminars and DRUID conferences in order to receive feedback on their work. An important part of the PhD training is for the student to become part of an international network and receive comments from other researchers than their supervisor in order to ensure the quality of their work. The IKE group also organizes pre-defences prior to the submission of dissertations.

The PhD students are often financed by externally funded projects, but sometimes with some kind of financing from the Department. Most of the PhD students have a Master's degree from AAU or another Danish university, but currently we have a few PhD students with a degree from a foreign university. Most of the PhD students pursue a research career at Aalborg University or at other universities after graduation.

In addition to the international DRUID Academy PhD conference, important PhD training activities include the AfricaLics PhD Visiting Fellowship program sponsored by the Swedish development agency SIDA. 5 to 6 PhD students from African countries spent five months with IKE in 2015 (six PhD students) and 2016 (five PhD students). We expect new groups of 4 African PhD students to arrive in 2018, 2019 and 2020, respectively, as part of the second phase of SIDA support to AfricaLics. Moreover, members of IKE contributed to the planning and execution of Globelics and AfricaLics PhD academies.

Figure 3.4: PhD Enrolment (2012-2017)

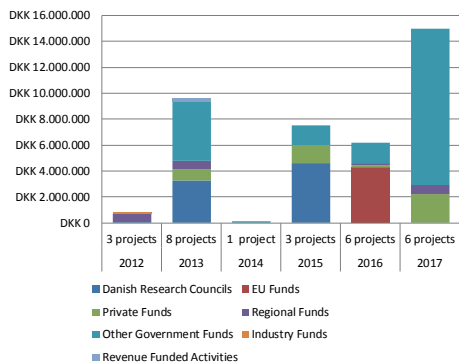


External Funding

It is part of the University, Faculty and Department strategies to become more focused and engaged in major projects. For decades, IKE has received a large amount of external funding. In 2013, 2015 and 2016, around 50 % of all external grants at the Department of Business and Management came from grants allocated to projects applied for by the IKE group, and over the entire period 2012 to 2016, 41 % of all grants at the department were the result of successful applications for IKE projects. External funds per full time research staff amounted to close to DKK 600,000 in 2016. For the Department as a whole the average figure of external funds per full time staff research was DKK 171,000 in 2016.

The external funding has, in particular, helped boosting the research area focused on innovation and development in IKE and the IKE-hub in Copenhagen, with Globelics, AfricaLics and IREK as the main projects.

Figure 3.5: New Grants in DKK and Sources 2012-2017



The grants for these activities are main drivers behind the high numbers mentioned above. Our strong focus on training PhD students is maintained through the Marie Currie-funded RUNIN project. During the period 2011 to 2016, IKE has also benefitted from a large grant from the Obel Family Foundation aimed at supporting the development of a new generation of IKE scholars. In October 2017, IKE's cross-disciplinary application to the Obel Family Foundation for the funding of studies of regional dynamics was successful. The application was prepared in collaboration with colleagues from Aalborg University's Department of Political Science and the Danish Building Research Institute, and was related to a new collaborate initiative on Regional Dynamics and Disparities.

Some of the major grants terminated in 2016, and if IKE embarks on new areas of research, it should therefore be considered if new funding opportunities need to be pursued. However, the value of current applications exceeds DKK 6m. Naturally, not all of these applications will be successful, and over the years, several attempts have failed, e.g. a Eurolics H2020 application and a Smart City H2020 application. See general considerations on strategies for external funding in section 3.5.

Research Collaboration and Outreach

The IKE group has a long tradition of interaction with leading universities throughout the world. Every year several scholars visit the IKE group for short or long research stays, and members of the IKE group are often invited to stay at foreign universities. This is regarded an important asset, but the popularity of research stays with the IKE group has also pushed the group to make priorities and a separate policy for such visits.

IKE is heavily engaged in international and national networks. IKE and Scholars from Copenhagen Business School (CBS) and the University of Southern Denmark (SDU) are core partners in the Danish Research Unit of Industrial Dynamics (DRUID), which was established in 1995 by means of generous funding from the Danish Social Science Research Council (SSF) and the Danish Ministry of Industry. DRUID organizes two major conferences: i) the DRUID Academy, a leading European PhD conference on management and innovation that attracts students from Europe and beyond; ii) a leading academic conference in innovation and industrial dynamics. The DRUID network is a primary strategic alliance of IKE.

IKE is part of the worldwide research network on Learning, Innovation and Competence building Systems (Globelics), and members of IKE, in particular Bengt-Åke Lundvall, have been instrumental in establishing and developing this network. The IKE group has served as secretariat for the network since its inception in 2002. Although the Globelics secretariat moved to Rio de Janeiro in 2017, members of the IKE group will remain engaged in the Globelics network activities. Members of the IKE group will continue to play an advisory role in relation to the organization of Globelics conferences

in an interim period. The members of IKE will continue their collaboration with other regional 'lics', in particular AfricaLics and Eurolics. For example, the IKE group will continue to host the Africalics PhD Visiting Fellowship Program developed in the period 2014 to 2016, and members of the group will also continue to support efforts to build research capacity in the field of innovation and development in African countries, e.g. through the development of a pilot program for Early Career Development targeting young African researchers, and through the provision of strategic advice to the AfricaLics secretariat on for instance conference organization, the organization of PhD academies, and strategic outreach. Contrary to Africalics, Eurolics is in an early development phase, and IKE has committed to contribute to building up this new network.

The RUNIN project mentioned previously also constitutes a current core research collaboration with external partners, including Stavanger University, Linköping University, University of Twente, The Autonomous University of Barcelona, University of Aveiro, and Lincoln University. Except for the latter university, all RUNIN partner universities are members of the European Consortium of Innovative Universities. In January 2017, IKE joined the Regional Innovation Policies (RIP) Network, a European network, which has arranged yearly research conferences for more than a decade. IKE has entered an agreement with RIP to host the international RIP conference in 2020.

In addition to formal collaborative relations such as those mentioned above, IKE also has a strong informal network within the international community of researchers in innovation and industrial dynamics. In addition to participation in academic conferences, activities such as the Lundvall Symposium, a recurring research event that took place in the years

2012, 2013, 2014 and 2016 (supported by the grant from the Obel Family Foundation), have contributed to maintaining this network with researchers from SPRU, Manchester University, Lund University, MERIT, Cardiff University, University of Pennsylvania and Scuola Superiore Sant'Anna in Pisa, and others. The strong international collaboration orientation of IKE is documented in the number of publications co-authored with external partners: In 2016, approximately 30 % of registered IKE publications were co-authored with researchers from organizations outside Denmark.

Internally at Aalborg University, IKE collaborates with researchers from other research groups both within and outside of the Department of Business and Management. Within the department, core collaboration partners are IMPAKT (with a large overlap in members), FIRM, IBC, BDC, and the macroeconomics group MAMTEP. IKE is also involved in research collaborations with partners from other departments and faculties at Aalborg University, most notably the Department of Political Science (e.g. the Regional Dynamics project mentioned previously), the Department of Civil Engineering (joint projects and publications), the Department of Planning (joint projects and applications), and the Department of Culture and Global Studies (joint projects and publications).

Research and Teaching Coherence

Members of IKE have various teaching obligations and work on developing current and new degree programs. Most importantly, in 2003 IKE established a master program in Innovation, Knowledge, and Entrepreneurial/Economic dynamics (MIKE), which spans both business studies and economics. The MIKE program has been important in defining core

teaching activities, and the content and structure of the program are regularly considered and updated to reflect the advances in the field, and to leverage the research competencies within the group. IKE places high emphasis on the marketing of MIKE, and the number of MIKE students has increased over the past couple of years. Many MIKE students come to AAU from abroad, and IKE members are making an extra effort to encourage more local undergraduates to enrol. Members of IKE also collaborate with the Sino Danish Center (SDC), delivering courses in the innovation management program in Beijing, China. Moreover, IKE members teach at the BA and MSc programs in economics, the MBA program, the BA program in Business Administration and Economics as well as other programs outside of the Department.

A joint Nordic Master's Program in Innovation and Development is currently being developed together with Lund University (Sweden), Tampere University of Technology (Finland), and Oslo University (Norway).

Generally, IKE members regard it as important to both have teaching obligations closely related to members' research profiles and to undertake 'basic' teaching of economics and business at the undergraduate level. This helps group members keep up to date with a broader academic field and allows group members to make IKE research immediately relevant to a broader range of students.

Third Mission Activities and Collaboration Outside Research

The members of IKE are very active in 'third-mission' activities, including the dissemination of knowledge outside of traditional academic channels. Such activities include e.g. workshops and seminars for policy makers and other "users" of IKE research,

presentations for private and public organizations, contract research and consultancy, representation in commissions and boards, and participation in "Forskningens Døgn", which is an annual popular Danish Science Festival organized by the Ministry of Higher Education and Science and aimed at establishing a meeting place for researchers and the general public.

A formal framework for third-mission activities is CRU, the Centre for Regional Development, which is coordinated by IKE's research group leader. CRU was established in 2006 as a forum for bringing together, further developing and communicating research-based knowledge related to regional development. IKE has a close collaboration with the North Denmark Region, which, in addition to its representation in the steering committee of CRU, is also a partner in the RUNIN project.

Our engagement in third-mission activities also has an international dimension. Our research in national innovation systems has inspired international organizations such as the European Commission, the OECD and the World Bank and has led to the involvement of IKE-members as advisors to these organizations as well as to consultations on innovation policy with national governments in the Nordic Countries. The leader of the IKE-group from 1976 to 2010 served as deputy director in the OECD from 1992 to 95. While the IKE-group hosted the Secretariat for the research network Globelics (2002-2016), IKE-scholars from the secretariat provided policy advice to countries in Asia (China, India, and Indonesia), Latin America (Brasil, Argentina, Mexico, and Cuba) as well as in Africa (South Africa, Senegal, Ethiopia). In connection with research training in Africa (Algeria, Kenya and Tunisia) organized by Globelics, members of the Secretariat have interacted with local policy makers.

The annual Globelics thematic reports (published during the period 2012 to 2016) on inclusive development, health, natural resource-based development, and low-carbon innovation and development were designed to attract an audience outside of the academic community and reached policy makers throughout the world. The IKE-group's work on innovation and development is well-known abroad. To illustrate this, members of the IKE-group were recently invited to assist the UN Economic Commission of Europe in developing country studies related to innovation policy for economies in transition.

3.4 Societal Impact

General introduction to Case Descriptions and Impact

Due to a general and increasingly pervasive trend, it has become a discipline in itself to demonstrate and measure the impact of research (cf. the genesis and rationale of the IMPAKT-group). In addition, of course, from its impact on education, the largest societal impact of academic work is of an indirect character and is therefore difficult to document. A number of other factors complicate a comprehensive assessment of impact. One example is the fact that timing and context play key roles in determining whether research has an impact. Hence, the research may fit into an ongoing policy debate or be particularly useful in one particular year. Another example is its impact on the counterfactual case. Preventing things from happening due to results from research is equally important in terms of impact, but providing evidence to prove this is difficult. Due to the nature of IKE's activities, the impact of IKE's research is perhaps primarily on public policy; IKE research

has inspired the conceptual and basic understanding of the dynamics of innovation, which in turn has provided a basis for more specific policies.

In the following, we present a 'meta-description' of the general impact of IKE research. In addition, a separate web-page at the IKE web will be established to demonstrate our societal impact.

Notes to the case:

¹ Some of the core IKE publications used for analyzing the impact include:

Lundvall, B.Å. 1999. Det danske innovationssystem – et forskningsbaseret debatoplæg om innovationspolitiske udfordringer og handlemuligheder. Erhvervsfremmestyrelsen, Erhvervsministeriet.

Lundvall, B.Å. (Ed.), 1992. National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning. Pinter Publishers, London.

Lundvall, B.Å., 2002. Innovation, Growth and Social Cohesion: The Danish Model. Elgar Publishers, London.

Christensen, J.L., Lundvall, B.Å. (Eds.), 2004. Product Innovation, Interactive Learning and Economic Performance. Elsevier Ltd.

²A comprehensive analysis of the Danish innovation system in a comparative perspective. The project addresses the innovation system from different levels and angles, and a total of nine reports (in Danish) were produced as an output. The insights from these reports were synthesized in the 2002 book "Growth, Innovation and Social Cohesion: the Danish Model" by Bengt-Åke Lundvall.

³ Graversen, E.K. 2017. From tendencies to genuine innovation policy - the Danish case.

⁴ P.2 in Graversen, E.K. 2017. From tendencies to genuine innovation policy - the Danish case.

⁵ P.10 in Graversen, E.K. 2017. From tendencies to genuine innovation policy - the Danish case.

Case

A “meta impact case”: IKE’s contribution to the innovation policy in Denmark

Since the early 1990s, IKE’s research has made important contributions to the design of the Danish innovation policy¹. In particular the DISKO project, initiated in 1995, has made a lasting impact. The project was inspired by a project from the late 1980s, the PIKE project, which was aimed at explaining the Danish productivity paradox from 1986 and onwards. One of the most important insights from this project, which was used as input to DISKO, was that promoting technology without developing human capabilities and new forms of organization results in less than optimal solutions. In addition to influencing the Danish innovation policy (further elaborated below), the DISKO² project paved the way for an empirically based research path which is still discernible in IKE’s work today.

The DISKO project met the demand for a genuine innovation policy in Denmark, which became increasingly pronounced up through the 1990s and was gradually operationalized and implemented. In 1994, Denmark asked the OECD to evaluate its research, technology and innovation policies. In this evaluation, OECD emphasized the importance of an innovation policy and called for the coordination of growth stimulating policy areas³. The DISKO project, and the underlying national innovation system framework developed in Lundvall (1992), synthesized the fragmented jurisdictional innovation policy areas “which, from a business point of view needed an innovation policy that merged and coordinated all national policies that affected Danish competitiveness and implicitly welfare in a global world, among them research, industrial, labor market, education, regional and sector policy”⁴.

The DISKO project was funded by – and carried out in close collaboration with – the Danish Agency for Trade and Industry, which took on the responsibility of developing a systematic clarification of Danish innovation policy and culture. The results of the DISKO project, which was completed in the late 1990s, contributed significantly to elevating innovation policy as a systemic instrument for national growth and competitiveness in Denmark⁵.

Accordingly, the DISKO project played a role in the processes that led to the establishment of the Danish Council for Technology and Innovation in 2002. The purpose of the council, which operated until it was replaced by Innovation Fund Denmark in 2014, was to promote innovation in Danish industry through various innovation support programs, several of which focused on promoting interactions between actors in the innovation system.

The impact of the project on policy activities abroad is perhaps even more important than its impact in Denmark. It is generally recognized that the IKE-group in collaboration with Christopher Freeman, who was a guest professor during the first half of the 1980s, played a key role in developing the concept of the ‘national innovation system’. This concept has been used as a framework for shaping innovation policies in all parts of the world. Early high-income users of the concept were governments in Canada and Finland; they were inspired by the OECD, which adopted the concept already at the beginning of the 1990s, directly inspired by the IKE-group.

Middle-income countries such as Mexico and South Africa were early adopters of the concept. Today the concept is used by policy makers in all parts of the world, perhaps most prominently in China, where long-term plans regarding science and technology are presented with the explicit objective of building a strong national innovation system with Chinese characteristics.

3.5 Future Plans

IKE researchers agree that economic development and change is knowledge driven, and that knowledge creation and innovation should be seen as reflecting processes of interactive learning within systemic frameworks. One major future challenge is to apply this perspective on local, national and global issues related to inclusive and sustainable innovation and development. The rationale for this was explained above; a survey among members of IKE regarding the future development of IKE's research pointed in this direction.

The first steps in pursuing such a research agenda have already been taken in the form of the new common project on inclusive innovation, as mentioned in this report. There are also other plans for future directions of research, some of which already have a trajectory in on-going research activities. One prominent example is the strong interest in economic geography among several IKE members. This is reflected in current and planned research activities in university-industry interaction, in research in factors behind regional disparities, regional entrepreneurship, and several other research areas within economic geography. These two research avenues are among the most important and pervasive in IKE. It should, be emphasized, however, that within the sub-themes depicted in figure 1 there are several additional ideas and plans for developing research.

Closely related to this explanation of future research plans, it is clear that IKE's research emphasis has evolved over time, and an increase has been seen in activities and members of the group. This can be considered one of the strengths of the group, as it will naturally result in more diversity within the group, which in turn enhances the groups'

capacity to engage in a broader variety of research and teaching themes. The timeline of IKE's history (section 1) illustrates that this has indeed been the case. The potential disadvantage of this process is that it might disperse the focus and result in too big diversity and too weak internal coherence. One measure to counteract this is to keep pursuing joint activities. Consequently, the joint activities outlined above will be continued and enhanced. The 'inclusive innovation' project mentioned in the report is regarded as one important future IKE activity in this connection, but other measures should be taken to fulfill this objective of maintaining internal coherence.

This applies not only to IKE's research areas, but also to other functions in which the research group is involved.

Regarding external funding, some of the major grants terminated in 2016, so when IKE embarks on new areas of research, it should be considered if new funding opportunities need to be explored, in particular funding for the 'inclusive innovation' project. IKE will be alert to any openings regarding possible external funding from both international and national funding sources. Generally, when strategic decisions are made as to which funding applications to prepare, it is taken into consideration that the research should result in publications and/or strategic network relations and/or new data that may be used in other settings. Furthermore, it is an important criterion that collaboration partners should be strong research groups within industrial dynamics and innovation studies. Ideally, the externally funded projects should render synergies to other planned or already existing activities of the group. Engagement in future externally funded projects will be assessed against these criteria.

Collaboration with external partners is another strategic issue. IKE members already have strong networks of collaboration with researchers outside of the research group, which is an important means to acquire external funding, get feedback and inspiration, and is also important for publishing. When publishing, IKE researchers rarely write with people outside academia untapped potentials in more frequently doing so might be considered. It is a strategic priority of both the Faculty of Social Sciences and IKE to spur publishing in the best journals, and IKE has embarked on discussions and seminars on how to do so. In order to increase the likelihood of publishing in high-ranking journals, enhanced efforts to engage with editors and participate in editorial work, reviews etc. are important. However, this is subject to constraints regarding the amount of time the individual researcher can be allocated to this.

IKE's continued active involvement in the DRUID network and conferences is a particularly important activity. Historically, continued financial support to DRUID and participation in DRUID conferences by the Department have been crucial and will continue to be so in the future. The DRUID summer conference is considered the most important European conference on innovation (possible in the world), and Aalborg University and IKE being associated with this is a major asset. In this respect, PhD training is close to the heart of IKE. For many years, the group has organized the international DRUID Academy PhD conference. This renders important reputation and visibility effects and is also important in relation to creating networks between PhD students, between PhD students and senior researchers, and between senior researchers. Last year, the DRUID Academy started to include a PhD course. Currently, IKE is contributing only little to this course, but intends to engage more in this, and is considering bidding to become once

again the coordinator of the DRUID Academy conference. Moreover, in the longer term, a newly developed Social Science Data master course may be developed into a PhD course. The group will also continue to host the AfricaLics PhD Visiting Fellowship Programme during the period 2017 to 2020 and will continue to support the planning and execution of the AfricaLics PhD academies during the same period.

Third-mission activities are natural parts of the dissemination of knowledge and can render synergies to research and teaching. Hence, we consider these activities important because they contribute to increased public interest in our research and teaching programs. This can have an impact on funding possibilities, our intake of students and recruitment. Regarding how and how much to engage in such activities, the question concerning the balance between our use of resources on these activities and our core activities must be considered. More specifically, IKE researchers make their research visible and available through the research platform VBN, as well as external platforms such as Google Scholar and Research Gate. Efforts to make publications visible through social media such as Twitter and Facebook are still in their infancy, but whether IKE should devote resources to engage with social media visibility is a relevant debate to take up. In terms of media visibility, IKEs' appearance in press cuttings is strongly concentrated on one person, who is a recognized expert in labor market issues. Accordingly, there are possibilities in making more researchers in IKE aware of relevant occasions to become more visible in the media. This effort should continue to be driven by considerations of research relevance/evidence. Generally speaking, because of the future importance of demonstrating impact, for instance for funding possibilities, it is of strategic importance to IKE to enhance our internal

competences in demonstrating impact and to raise the awareness of the importance of doing so.

Finally, the future perspective regarding IKE' staff composition must be mentioned. Over the past few years, a number of senior staff have down-scaled or terminated their activities in IKE. Recently, three assistant professors, two new associate professors, three PhD students, and a Post-Doc entered the group, but with many externally funded projects are in the pipe-line, the question remains if the group has enough senior researchers to maintain its position and sustain many of the ambitions and activities pursued by the group. Consequently, it is an open question whether there is a need to keep increasing the group's capacity through the internal upgrading of existing IKE staff, and/or the hiring of additional staff. In this respect, it should be considered carefully what type of staff is needed in the future. The number and work load of the external projects already in the pipe-line could potentially call for more postdocs/research assistants. However, exploiting the possibilities of the external funding of staff with strong CVs is needed.

3.6 Panel Evaluation [to be completed during the visit]

Observations

Recommendations

4. International Business Centre (IBC)

Executive Summary

The International Business Centre (IBC) currently has 22 academic staff members (including three PhDs), who are originally from 10 different countries, and 4 adjunct professors. The diversity of its staff composition has produced a vibrant, creative and synergistic learning environment for three MSc programmes and a bachelor degree programme as well as for our PhD teaching. The Centre undertakes research in areas such as the internationalization process and strategies of MNCs and SMEs, inter-cultural management and leadership, international marketing and eBusiness. Moreover, the centre has conducted research, and will continue to do so, in the international dimensions and problems related to innovation and knowledge management, industrial dynamics in institutional contexts as well as global value chains.

The Centre has participated actively in EU-funded programmes such as Erasmus, Tempus and INTAS in collaboration with universities in the Baltic countries to begin with, and later in such countries as Russia, Bulgaria, Poland, Moldova, and Croatia. IBC researchers have also participated in Danida-funded research capacity enhancement programmes in countries such as Ghana, Tanzania, Vietnam, and Bangladesh (and will continue to do so). We are now extending our collaborative networks to include universities in USA, Italy, Norway, Finland, and Germany

The Centre has a portfolio of projects which have

received funds from public and private organizations within and outside of Denmark. Some of these projects have a specific research focus (e.g. the SINET project), while others have aimed at upgrading research and managerial capacities in firms and universities (e.g. BSU, SME Panel, EUniAM, GLOBAL, DANUS TAIS, and BDISIRN).

The academic staff members have been productive in terms of publications – with an average of 56 publications per year and a total of 282 publications in five years. Our publications have appeared in such high-impact journals as Journal of Manufacturing Technology Management, International Journal of Product Development, Operations Management Research, Journal of Business Ethics, Thunderbird International Business Review, Journal of International Marketing, and International Marketing Review. We have registered a total of 165 Scopus citations and 2577 Google Scholar citations in the period 2014 to 2017. Our ambition is to target top ranking journals with our research outputs during the next five years.

The problem-based orientation of the Centre's activities enjoins us to continuously interact with our external stakeholders, thus impacting the ambient society. The direct beneficiaries of our research and outreach activities are companies and their employees, but these activities also produce spill-over effects in the form of job creation and better service deliveries both in Northern Jutland and in several emerging economies including Ghana,

Tanzania and Vietnam.

The Centre is planning to achieve the following targets by 2020:

1. We will retain our focus on producing high-quality research publishable in core journals and books
2. We will participate regularly in five of the top conferences in International Business.
3. We will host 2 to 3 business development workshops and seminars each year.
4. We will develop and enhance the capacity to apply for major externally funded projects
5. We will undergo further development, and The IBC biennial International Conference will become an agenda-setting conference within IB, resulting in high-quality publishable papers
6. We will continue our intensive interaction with the business community and increasingly leverage this interaction in relation to our research and teaching activities.

4.1 Research Profile

The International Business Centre (IBC) was established in 1984 with only three academic staff members to run an MSc degree programme in International Business Economics. Today (2017), the Centre counts nine doctoral candidates, 10 assistant professors and postdocs, two associate professors

(with two new in the pipeline), five full professors, one professor emeritus, and four adjunct professors. The staff members are originally from 10 different countries – an indication of the rich diversity of the group.

IBC is a comprehensive Centre and engages in three principal groups of activities:

- (1) Research activities (including a PhD programme);
- (2) Teaching, and
- (3) Collaborations with the business community (both local and international).

The Centre's vision is to strengthen our international position and become an internationally visible and recognized centre that contributes constructively to the teaching, research and policy/strategy agendas in the area of international business. We seek to fulfil this vision by providing high quality teaching using the Problem Based Learning (PBL) pedagogy; and by contributing new conceptual perspectives, theoretical constructs and empirical insights to the field of international business. To this end, IBC has been the home of three Master's degree programmes (MSc International Business Economics –since 1984; MSc International Marketing - since 2009, and MSc Innovation Management in Beijing - since 2012), as well as a bachelor degree programme. All programmes recruit students from Denmark and internationally.

Most of the research conducted at the Centre can be

grouped under the following five themes:

1. *Internationalization process and strategies of MNCs and SMEs*, with a focus on firms and country-specific factors that influence managerial decisions and the competitiveness of international businesses in different operational environments.
2. *Culture, Inter-Cultural Management and Leadership*, focusing on cultural considerations in international joint venture management, the leadership challenges of expatriates, the development of global mindsets in MNCs, and intercultural communication processes.
3. *International Marketing and E-business*, concentrating on consumer behaviour, the strategic marketing decisions of firms operating in emerging economies, online marketing, and the processes of adopting digital marketing tools by MNCs and SMEs.
4. *Global Innovation, Knowledge Management and Organization*, giving priority to radical and incremental innovation, processes of creating learning organizations in different operational contexts, as well as factors influencing knowledge creation and sharing in different organizations.
5. *Global Industrial Dynamics and Value Chains in an Institutional Context*, with a focus on institutional impacts on the value creation processes of firms within a global framework.

The geographical context of our empirical research is mainly emerging and transition economies, notably Eastern European countries and Ghana, Tanzania, Vietnam, Bangladesh, and the BRICS, but also developed economies such as the US and Germany. The contextual diversity of our research also reflects the multiplicity of nationalities of our academic staff and their research interests.

The evolution of IBC's international research network started shortly after the establishment of the Centre in 1984. From its outset, the Centre took part in the Erasmus and Tempus programmes with the exchange of students and staff, notably with universities in Germany, France and the UK. In 1992, we received EU funding for designing and teaching an MSc programme in International Business Economics at Vilnius University in Lithuania. Our collaborations continued at the turn of the century with several EU-funded programmes (Tempus and INTAS programmes from 2005 to 2008) that resulted in collaboration with universities in Russia, Vietnam and China. In 1995, we also received Danida funding for a research capacity enhancement programme in the field of International Business with the University of Ghana Business School. From 2004 to 2008, we engaged in a similar research capacity enhancement programme with the Foreign Trade University in Vietnam (together with colleagues from Copenhagen Business School). Representing Aalborg University, the Centre was actively involved in the operations of the European Consortium for Innovative Universities (ECIU) (www.eciu.org) and collaborated in particular with the University of Twente in the field of entrepreneurship. These international contacts have shaped (and continue to shape) the research focus and agenda of the Centre. We now have collaborations with institutions and scholars in Ghana, Tanzania, China, India, USA, UK, Vietnam, and Bangladesh. Although not all of these relationships are equally active at all times, we favour (and strive to maintain) long-term partnerships that enable us to remain informed about new research issues in the field of international business in different parts of the world.

Timeline

	Educational Programmes	Major Research Projects and Events	Collaboration with the Business Community
1984-1989	MSc Programme in International Business (1984)	Internationalization of SMEs in North Jutland – empirical studies in three districts (1989-1992) Establishment of NOMAD (Network of Marketing and Development) together with University of Rhode Island, US: Newsletter and bi-annual conferences	Partner in establishing and managing "The Export Club of Northern Jutland" (1985 – 2005). Establishing international internship programme -1985)
1990-1999	Diploma Programme in International Management (1998) Development of MBA-Programme in International Business at Vilnius University	Internationalization of companies project in Ghana (1995-2010) financed by Danida Business Development in Russia. INTAS – Projects (1997 – 2004)	
2000-2009	MSc Programme in International Marketing (2008). Building educational collaboration with China and Vietnam. Asia Link Project (2005 - 2008) financed by EU.	Internationalization of companies project in Vietnam (2004-2008) financed by Danida Entrepreneurship project in Tanzania, Phase I (2009 -2012) Inter-cultural Management project (2008-2012) financed by Grundfos First bi-annual IBC International Conference (2004 → every second year)	Europartnariat I and II evaluation project (2000-2001) Export promotion Programme evaluation project I-III (2003-2006)
2010-2015	MSc Programme in Innovation Management in Beijing (2012) PBL-implementation project with six universities in Moldova (2015-19), financed by Erasmus+	Entrepreneurship & Research Capacity Enhancement projects in Tanzania (2013 -2017) SDC-Innovation Management Research Programme in Beijing -2010 → University Autonomy project in Moldova (2012-15), financed by Tempus SME Internationalization – SINET Project (2011 →) Theory Building Research Program, incl. PhD-courses (2012 →) Management Strategy and Economic Development Project for the Dr Merc Degree (defence 2016) Launching the AJEMS journal under Emerald Insight (2010) Book editing projects on theInternationalization of Emerging Economies Firms (2012); Emerging Economy Multinationals (2014); Corporate Foresight project and book (2013)	GLOBAL – Regional Business Development project (2011 - 2015), financed by EU/Growth Forum. SMV-Panel project for creating business debates and promotion in the region (2015 - 2018)
from 2016	Curriculum development and adaptation in relation to sustainability, circular business and employability	BSU III: Research Capacity Enhancement (pilot research projects, stakeholder collaboration, etc.) in Tanzania (2017-21) financed by Danida DK-US Technology, Innovation and Sustainability Network project (2017), financed by Network Program Book editing projects on International Business Perspectives (2014); Value Creation in Int. Business I & II (2017); and Marketing in Emerging Economies (2017)	SMV-Panel project II (2018-22), financed by Growth Forum. Business Mentoring Programme for International Students (2017 →)

4.2 Organization, Composition and Financing

Current Research Staff as of 31 December 2017

Professors

John Ernest Kuada
Marin Alexandrov Marinov
Olav Jull Sørensen
Romeo V. Turcan
Svetla Trifonova Marinova

Professor Emeritus

Hans Gullestrup

Associate Professors

Dmitrij Slepniov
Reimer Ivang (Research Group Leader)

Senior Advisor

Keld Arenholt Christensen

Assistant Professors

Andreea Ioana Bujac
Daojuan Wang
Jimmi Normann Kristiansen
Jonas Strømfeldt Eduardsen
Mohammad Bakhtiar Rana
Yimei Hu

Postdocs

Arnim Decker
Jeanne Sørensen Bentzen
Li Thuy Dao
Heather Louise Madsen (Industrial PostDoc)

PhD Students

David Schulzmann
Philip Mampukia Yakubu
Raphael Mateus Martins

Enrolled PhD Students with own funds

Laurie Prange
Xinyue Zhou
Karina Hjørringgaard
Ming Quang Truong

Imraul Hoque
Yuchen Gao

Adjunct Professors

George Tesar
Nancy Napier
Nigel Holden
Richard P. Bagozzi

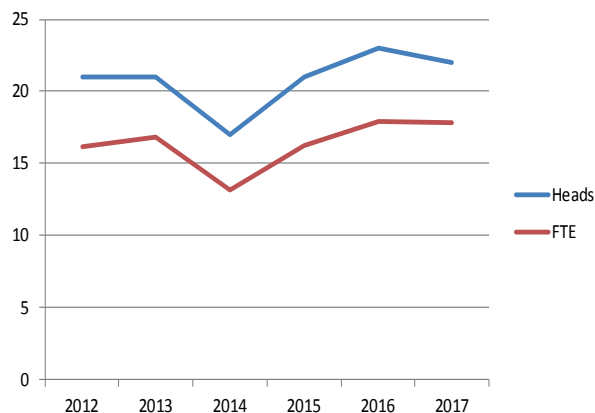
Research Assistant

Melanie Ihlenfeld

Staff Development

As mentioned above, IBC has 22 permanent academic staff coming from 10 different countries. Ten of them are less than 50 years old and five are women. Our recruitment strategies over the past five years have therefore taken care of anticipated generational gaps. We will strive for a gender balance in our subsequent recruitment efforts.

Figure 4.1: Research Staff Development 2012-2017, Heads and FTE



The Centre is organized in a manner that reflects its three main foci: research, education and collaboration with external stakeholders. The Centre

is headed by an academic member of staff, currently Associate Professor Reimer Ivang. We hold four staff meetings a year to discuss research and development issues as well as other broad issues related to the operations of the Centre. Two of the meetings are attended only by the permanent staff including PhDs, while the other two are attended by both permanent and part-time employees and externals.

The research side is organized around five IB-themes as mentioned under section 2. In order to maintain the internal coherence of the group and encourage collaboration between the members of the group, the IBC organizes monthly research seminars to discuss on-going projects and draft research papers. The seminar series is open to all interested parties. International speakers are also invited to give a seminar. The purposes of the seminars are to enhance research quality and publication by giving PhD students and senior researchers a possibility to present work in progress and receive feedback. We also host biennial international conferences and PhD colloquia. Our sixth conference is scheduled for May 2018.

The Centre has a portfolio of projects which have received funds from public and private organizations within and outside of Denmark. The list below is a sample of research projects in which we are currently engaged:

1. Projects with a specific research focus (e.g. the SINET project)
2. Projects aimed at research and capacity enhancement in partner universities (e.g. BSU, SME Panel, and EUniAM).
3. Projects aimed at upgrading managerial competences in specific areas within the local business community (e.g. GLOBAL)

4. Research and innovation network building projects: DANUS TAIS, BDISIRN.

Each project has its unique characteristics in terms of who is involved, how it is managed and its duration.

4.3 Strategies, Activities, Output and Academic Impact

IBC's overarching strategy is to harness our internal capabilities and synergies in order to position ourselves on the international scene as a Centre with problem-based education and a research focus in international business and marketing. We will also continue to leverage additional resources from the collaborative relationships we already have, while developing new relationships. Our current strategic goals are as follows:

1. We will continue our focus on producing high-quality research publishable in core journals and books
2. We will participate regularly in five of the top conferences in International Business.
3. We will host 2 to 3 business development workshops and seminars each year.
4. We will develop and enhance the capacity to apply for major externally funded projects
5. We will develop further, and The IBC biennial International Conference will become an agenda-setting conference within IB with high-quality publishable papers
6. We will continue our intensive interaction with the business community and increasingly leverage this interaction in relation to our research and teaching activities.

Our empirical focus will remain both MNEs and SMEs.

However, we envisage including more SME projects in the near future because emerging economies and the North Jutland region, in particular, and Denmark, in general, have many international SMEs.

Publication

Figure 4.2 provides overviews of publications and citations from IBC between 2012 and 2016. We produced a total of 282 publications during the five years – an average of 56 publications per year. Highlights include 55 articles in peer-reviewed international journals, 147 books and book chapters, and 64 conference papers, the latter suggesting our engagement with colleagues in conferences in order to partake in the on-going discourses in the field of international business in general. We have also published 11 books during the period. Our publications have appeared in such high-impact journals as:

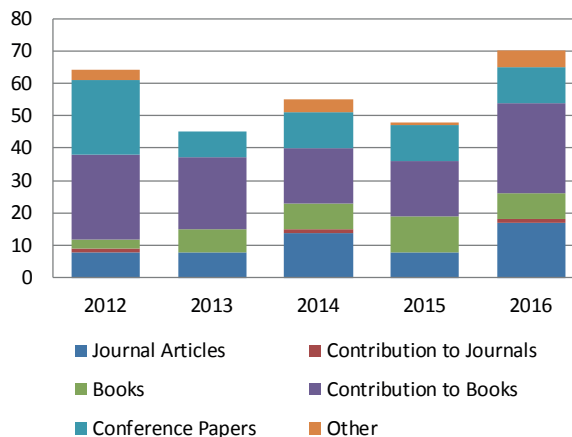
- International Journal of Operations and Production Management
- Journal of Manufacturing Technology Management
- International Journal of Product Development
- Operations Management Research
- Journal of Transnational Management
- International Journal of Entrepreneurship and Small Business
- Journal of Business Ethics
- Thunderbird International Business Review
- Journal of International Marketing
- International Marketing Review.

Several of these papers have captured the attention of colleagues within the international business research community; we have registered a total of

165 Scopus citations during the period 2012 to 2016 and 2577 Google Scholar citations in the period 2014 to 2017. In total, IBC has more than 6250 citations in Google. These results speak about a healthy publication culture in the Centre – a culture that we will continue to nurture and build on.

In addition to the mentioned journals etc., IBC researchers make their research visible and available through the internal research platform VBN, as well as external platforms such as Google Scholar and Research Gate. Efforts to make publications visible through social media such as Facebook is “work in progress”;; IBC has experimented with our own page on Facebook, and this work will continue. It is also important to continue the IBC members’ active involvement in reviewing for journals, participating on editorial boards, interacting with journal editors and peers, organizing conferences etc. Such activities are vital in the overall positioning of the group in the research community and for opening doors, e.g. in relation to receiving invitations to collaborative projects and funding opportunities.

Figure 4.2: No. of Publications Split on Publication Categories



Our ambition is to target top-ranking journals with our research outputs during the next five years. However, as our research agenda is broad and rich in new ideas, our publishing strategy will also include dissemination channels that are open to new and explorative ideas. Furthermore, our research culture and agenda favour working on projects that link theories to practice. This enjoins us to publish some of our work in outlets that encourage these types of research.

Research Training (PhD)

An important lifeline of the Centre is its PhD programme with PhDs financed by Aalborg University, industrial PhDs, as well as PhDs financed by foreign universities and development programmes.

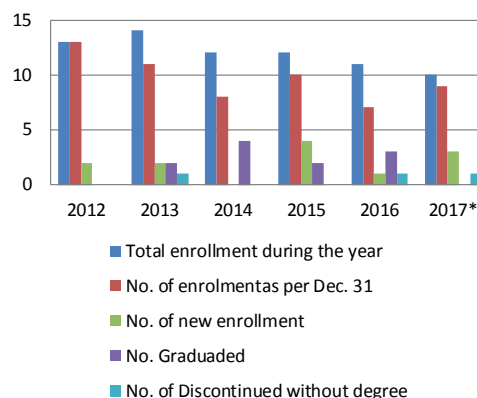
Figure 4.3 provides an overview of our PhD enrolments (with the Department of Business and Management) between 2012 and 2017. In 2013, IBC was home to 14 PhD students – the highest number in our history. IBC is heavily involved in PhD training and has, for many years, been successful in educating PhDs. Many of these students secured funding from external sources as part of our collaborative relationships with other universities or participation in externally funded capacity development programmes abroad. We are also hosting a number of visiting PhD students, coming from China, Ghana, Tanzania and Germany in particular. Nearly all our PhD students complete their programmes within the stipulated period of three years; where delays occur they normally do not extend beyond six months. Individual PhD students are mentored by their supervisors, using the apprenticeship model. The diversity of the topics allows for very little formalization beyond the requirements laid down by the Doctoral School for

Social Sciences. Our goal in the coming five years is to develop mechanisms of collaboration among the PhD students in order to build a more reinforcing learning culture for them and help them feel more integrated into the IBC fellowship.

The PhD students are included in the IBC group and participate as regular staff members. The PhD students participate in regular research seminars.

Seven of our former PhD students have joined IBC as assistant professors. The programme has therefore served as a recruitment base for us and has helped bridge a generational gap that we would otherwise have faced. PhD students who were trained as part of our involvement in capacity enhancement projects return to their home universities to contribute to human capital development in their countries. A few of them have joined the private sector or have taken teaching and research jobs at other universities.

Figure 4.3: PhD Enrolment (2012-2017)



IBC hosts two PhD courses: one in “theory building” held annually, and a course in “Contemporary theory and methodology in IB” held biennially. Additionally, and as part of our involvement in the SDC – Innovation Management Programme in Beijing,

IBC co-hosts a PhD course on Innovation under the CICALICS programme in collaboration with Tsinghua University, Zhejiang University and University of Chinese Academy of Sciences. We will explore other avenues for collaboration with research groups within and outside of Aalborg University in order to increase the variety of PhD courses available to our PhD students.

External Funding

It is an objective of the University, Faculty and Department strategies that we become more focused and engaged in major projects. IBC has always received a large proportion of external funding, however often for a series of minor projects. The IBC group intends to enhance our competences within applying for external funding, thus increasing our external funding over the coming years. As per November 2017, IBC has the following externally funded projects (see Table 4.1).

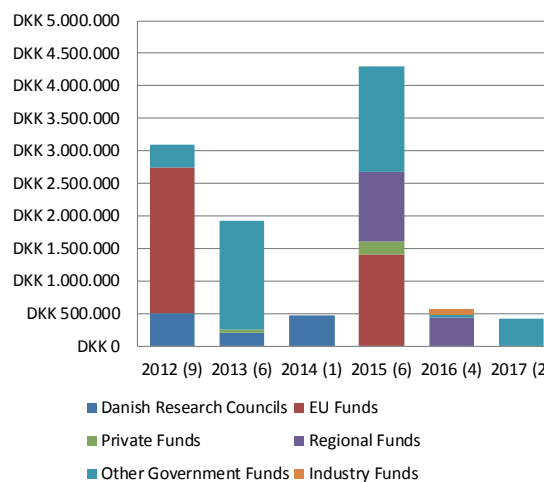
Table 4.1: IBC funding as per November 2017

Category	Types of Project	# of Projects
1.	Externally Funded PhDs and Post-Docs (Industry-based Post-Docs)	5
2.	Collaboration with African Universities (BSU projects)	3
3.	International Network Development	1
4.	Sino-Danish Centre	1

Current funding policies appear to favour projects in categories 2 and 3. IBC is aware of this trend and uses it to guide its project applications. We are engaged in programmes such as BSU, in which capacity building takes place through research projects that we undertake with our colleagues in the partner

universities. We also participate in category-three funded projects, in which the outcomes are both new knowledge and new management practices. Our participation in these projects is consistent with the PBL foundation of IBC. Our goal is to increase the research-focused external funding as this is a foundation for extending research networks and boosting joint research output.

Figure 4.4: New Grants in DKK and Sources 2012-2017



Looking back, IBC achieved satisfactory results from applications for external funding between 2012 and 2017 (see figure 4.4). Amounts received ranged between DKK 500,000 and DKK 4 million, with an annual average of DKK 2.4 million. During the past few years, the focus on applying for major projects, e.g. Horizon 2020, has increased.

Since these applications have not been successful; a drop in external funding is seen in figure 4.4. As already mentioned, the goals and strategies of IBC imply that we want to improve our competences in applying for and winning major externally funded projects. In order to succeed in this, the IBC will

strengthen its collaboration with AAU Innovation and continue to focus on developing our skills in applying for major externally funded projects.

Research Collaboration outside the Research Group

Our international collaborations are at three levels. First, we collaborate with other researchers at Aalborg University within and outside of the Department of Business and Management. Within the Department the IBC has collaborative partners in IKE, FIRM, and IBC. IBC is also involved in research collaborations with partners from other departments and faculties at Aalborg University, most notably Computer Science (e.g. the CASEK joint EU project.). Secondly, we collaborate with individual scholars who work with us as Adjunct Professors, which enhances our research capacity and helps train our young academic staff members. At present, we have 4 Adjunct Professors. Thirdly, we have partnership arrangements with foreign universities centered on specified research programmes/projects. These arrangements are partly motivated by our desire to study international business from different contextual angles and also to use the relationships that our academic staff members have with universities in their countries of origin. So far, our main research partners have been in Ghana, Tanzania, China, Bulgaria, Poland, Croatia, Norway, Finland, Italy, Moldova, the UK, USA, Bangladesh, Vietnam, and India. These partnerships have been project-based, although not all of them have been externally funded. We also have collaboration with Danish universities, including Copenhagen Business School and the University of Copenhagen, as well as different departments and research groups within AAU. We are planning to intensify our collaboration with colleagues in the USA, Italy,

Norway and Germany in the coming years, due to our expanding research interest and activities (See Table 4.2, on p.60).

Collaborations with colleagues outside of IBC have produced notable publications, including the following:

- *Value Creation in International Business: An MNC Perspective. Vols. 1 & 2* (Palgrave Macmillan, 2017) Edited by Svetla Marinova; Jorma Larimo; Niina Nummela.
- *Institutional Impacts on Firm Internationalization* (Palgrave MacMillan, 2014) Edited by Svetla Marinova
- *Rediscovering University Autonomy: The Global Market Paradox of Stakeholder and Educational Values in Higher Education* (New York, Palgrave Macmillan, 2016) Edited by Romeo V. Turcan, John Reilly and Larisa Bugaian
- *Global Mindsets: Exploration and Perspectives* (London, Routledge - 2016) edited by John Kuada
- *Internationalization and Economic Growth Strategies in Ghana: A Business Perspective.* (London: Adonis & Abbey Publishers Ltd.) edited by John Kuada

Research and Teaching Coherence

We endeavour to align our teachings with our research work in order to deliver research-based teaching to our students. In specific terms, we deliberately assign our assistant and associate professors to courses and modules that are in line with the types of research they are conducting or intend to conduct. Furthermore, each of the five research themes we have is linked to the course modules we offer in International Business Economics and International

Marketing. This encourages our staff to introduce new ideas from their own research or that of their colleagues within the themes in the courses they teach. This teaching-research interaction motivated us to re-design the International Marketing and International Business Economics programmes in 2015. As part of this process, we have found it useful to offer two modules (5 ECTS each) in “Contemporary Issues in International Marketing” and “Contemporary Issues in International Business Economics”. The content of these modules is flexible and reflects emerging perspectives in our research, as well as our knowledge of new thinking in the two programmes.

Our research seminars offer an opportunity to update our knowledge about the activities of our staff and to discover how the new knowledge will fit into our research. For example, some of our colleagues have recently developed an interest in “Green Business Strategies” and “Sustainable Development and Business”. We therefore discussed the relevance

of their research knowledge for our teaching at a meeting on 17 November 2017 and are planning to incorporate some of their thinking into our modules in “Contemporary Issues in International Business Economics”.

Third Mission Activities and Collaboration Outside Research

Third-mission activities have a long tradition within the IBC group. We have always been very active in ‘third-mission’ activities, including the dissemination of knowledge outside of traditional academic channels. Such activities include, for instance, workshops and seminars for executives, contract research, consultancy and representation in commissions.

Overall, IBC collaborates with our external stakeholders via three sets of activities; (1) interaction with them in our educational/teaching

Table 4.2: List of Important collaborators (Current and the next 5 years)

	Name of Collaborator	Strategic importance to the group
Established collaboration	University of Ghana Business School (UGBS)	Understanding international business in an emerging African economy
Established collaboration	Sokoine University of Agriculture (SUA)	Understanding international business in an emerging African economy
More recent collaboration	UCASUCAS, School of Management	Research and education collaborator (double-degree MSc and PhD programmes) / Understanding international business in an emerging Asian economy, research on innovation and knowledge intensive sectors in China (among other current areas)
Emergent collaboration	Georgia University of Technology	Doing research in innovation and internationalization
Emergent collaboration	University of Macerata	Industrial Dynamics and Business Models in Firm Internationalisation
Emergent collaboration	University of Agder, University of Macerata and Jacobs University	Internationalisation, Value Creation and Value Capture

activities, (2) engaging in skill-upgrading and knowledge-transferring/sharing activities, (3) engaging in research-related knowledge generation activities. Examples of the first type of collaboration include inviting managers and policymakers to give guest lectures to our students on specific issues, writing company-based cases in collaboration with managers, organizing student visits to companies, and involving managers and policymakers in student mentorship programmes that enhance the employability of our students. Examples of the second type of collaboration include holding training sessions for companies in order to upgrade the skills and competences of their employees on subjects they consider important to them. We also hold workshops, symposia and seminars with executives in order to discuss the relevance of new international business/marketing theories and models pertaining to their operations. Examples of the third type of collaboration include industrial PhDs and Postdoc positions with companies. The most recent Postdoc position is held by Heather Louise Madsen, who is working on “Critical Success Factors for Knowledge and Innovation Management in the Sustainable Energy Consulting Sector”. One result of these collaborative arrangements is that the conventional dissemination formula whereby research findings are presented to the external stakeholders has been replaced by an outreach modality consisting of collaboration related to defining the research project/agenda (pre-research engagement); conducting the research (engagement during the research project), and implementing it (post-research engagement). As part of this development, IBC established a unit for industry/business collaboration in 2016. This unit is to help us systematically build relations and projects that improve our capacity to conduct research and to disseminate our knowledge to companies. An example of this arrangement is the SME-Panel

(post-research engagement). As part of this development, IBC established a unit for industry/business collaboration in 2016. This unit is to help us to systematically build relations and projects that improve our capacity to do research and to disseminate our knowledge to companies. An example of this arrangement is the SME-Panel

4.4 Societal Impact

The problem-based orientation of all our activities enjoins us to continuously interact with our external stakeholders and (through this) impact the ambient society. The direct beneficiaries of our research and outreach activities are companies and their employees, but these activities also produce spill-over effects in the form of job creation and better service deliveries. In addition to this, we also engage in social impact activities both within the North Denmark Region and through the institutions with which our researchers collaborate in such emerging economies as Ghana, Tanzania and Vietnam. Examples of our social impact within the North Denmark Region include our collaboration with public institutions and agencies to design and implement interventions such as the training of middle-level executives (e.g. “eksportakademiet” [the export academy] in Ranum), improve digitalization processes in businesses and institutions (e.g. Digitalisation 4.0), and enhance the international business knowledge base of SMEs in the region (e.g. **Global** project, **CRM, Ta Fat, Industry 4.0**, and **Cluster Internationalisation**). These activities have directly impacted the operations of over 250 businesses and indirectly impacted the livelihoods of about 5,000 individuals.

As indicated above, IBC has also been actively engaged in human capital and policy development

in transition and emerging economies since the centre was established. Policies have been developed in countries such as Ghana, Kenya and Tanzania in Africa, impacting human capital and business development in these countries. Research publications, journal initiation and development and PhD projects have nurtured small businesses and schools as well as management and entrepreneurial capacity development. These publications and research projects have resulted in new ways of thinking about management practices and have contributed to job creation in these countries.

4.5 Future Plans

Throughout its long history (34 years), IBC has developed using a Problem Based Learning (PBL) platform. In our interpretation of PBL, this implies a balance and a synergy between, as well as the integration of, education, research and collaboration with the business community. This IBC formula will continue so that plans in for example research will concomitantly lead to changes and plans in education and relations to the business community.

In 2018, IBC will have a mid-term review of its present strategic plan, and this is expected to lead to changes in for instance the following three areas:

1. Changes in the research themes to reflect new trends especially related to digitalization, sustainability, ethics and value creation/ business models. While digitalization especially related to marketing is already on the IBC research agenda, there is a need to develop the international business theories to encompass sustainability (including circular economy and life cycle analysis), ethics, and value creation/ business models. This will also include global value chains as well as institutional thinking.

As mentioned several times in the above document, another future strategic focus is for IBC to develop and enhance the capacity to apply for major externally funded projects

2. IBC researchers are relatively productive in terms of publishing. Focus in the future will be on enhancing the quality of the research to enable publishing in higher-ranking journals. More collaboration and cross-fertilization within as well as outside of the group are needed to achieve the higher quality.
3. To be successful within points 1 and 2, close collaboration with the business community and stakeholders at large is essential. IBC has good relations with the business community, but wants to take the relations one qualitative step further to the collaborative level, including PhDs, co-writing and theory-practice integration. As part of this plan, the renewal and improvement of the SME-Panel project in the coming four years will be one important step.

4.6 Panel Evaluation [to be completed during the visit]

Observations

Recommendations

Human Capital Development in Transition and Emerging Economies

1. Research by John Kuada, Olav Jull Sørensen and Hans Gullestrup in the 1990s informed Denmark's bilateral relationships with Ghana and contributed to policies on private-sector development in this country. These studies have also facilitated collaborations between the University of Ghana Business School, the Ghana Export Promotion Council, and the Federation of Association of Ghanaian Exporters (FAGE). These collaborations have influenced the country's national export sector development strategies.
2. Research conducted by Marin Marinov and Svetla Marinova on Chinese multinationals has attracted the attention of leading national media (Peoples' Daily) and has informed policies on business actions during periods of economic uncertainty.
3. The research on EMNs and innovation has informed national initiatives for the creation of the Sino-Danish Strategic partnership that led to the establishment of the Sino-Danish Centre, which has spill-over effects on human capital development, cross-cultural learning, business interface, and joint research.
4. IBC staff has also been instrumental in securing and implementing a TEMPUS EU funded project in Moldova, resulting in major policy implications. For example, it led to a white paper on HE rationalization, restructuring and modernization which is now being implemented by the Moldovan Government and the Moldovan Ministry of Education.

5. Firms, Innovation, Relations & Management (FIRM)

Executive Summary

FIRM was established in 2009 and consists of 12 research staff members of whom two are PhD students. FIRM is a research group that is driven by an urge to support and develop societal impact through strong linkages between research and teaching activities. The group is organised as a distributed entity with an associate professor as the formal research group leader and several active working groups. The research group has historically prioritised engaged scholarship activities for the purpose of combining theoretical and empirical knowledge based on the concrete contextual setting. It is a natural activity for the group to publish its research findings in journals, joint book projects and via other disseminating channels. From 2012-2016, FIRM had a total of 124 registered publications. FIRM is working strategically to uphold and further strengthen these activities.

The research group's foci are nuanced and approach the field of business and management from various angles such as strategy, leadership, innovation, storytelling, discourse, business models, ethics and reflexivity. The research group is working strategically to enhance its competences in order to secure external funding to support research and disseminating activities within these theoretical perspectives. As the self-evaluation report will illustrate, the group primarily prioritises the following four strategic areas:

Societal impact

In section 5.5, a grid is presented that illustrates how FIRM understands and works with societal impact based on strengthening of cooperation with organisations and cooperation with students, with focus on developing transparency and research activities. The guiding philosophy behind the grid is to ensure that the activities carried out in the research group are aligned with the overall strategy and correspond with both academic and social expectations.

Third mission activities

The self-evaluation report underlines the research group's desire to engage in third mission activities and collaborate with organisations for the purpose of bringing academia and practice closer to one another. Furthermore, there is focus on generating new knowledge that has both a societal impact and enhances and enriches existing understandings of organisational phenomena in acknowledged international research communities and traditions within the fields of business and management.

External funding

As the self-evaluation report will illustrate, FIRM is a research group that has some experience with external funding (from 2012-2016, a total of three projects amounted to DKK 1,447,000), but it is within the scope and part of the strategic development of the group to increase and improve the knowledge and experience regarding external funding.

Strong linkages between research and teaching activities

FIRM is a research group that values and prioritises coherence between teaching and research. The group's teaching obligations range from lectures during the first semester of the bachelor programmes to thesis supervision at PhD level. As the self-evaluation report will show, the group has not identified any aspects of the current research that are not reflected in teaching activities, and the group aims to maintain and further develop these strong linkages in accordance with developments within academia and society.

The group consists of 12 research staff members and five external lectures, all engaged in creating strong ties between academia and practice. Thus, meshing different perspectives and experiences are valued practices in the research group as it is the conviction of the members that new and viable understanding will emerge based on differences.

5.1 Research Profile

FIRM is an acronym for: Firms, Innovation, Relations and Management. The group is an interdisciplinary research group who is driven by curiosity about and an ambition to play a role in the development of organisational life, aspiring to strengthen our role in this respect. We are determined to participate in

international, scientific dialogues and debates about the ways in which organisational life unfolds and can be understood. We work proactively to enhance our voice in relevant research communities as to how organisational life can be understood and developed in viable ways.

We generate knowledge about practice together with practitioners, and we strive to become a more significant party in further development of practice-anchored knowledge together with practitioners.

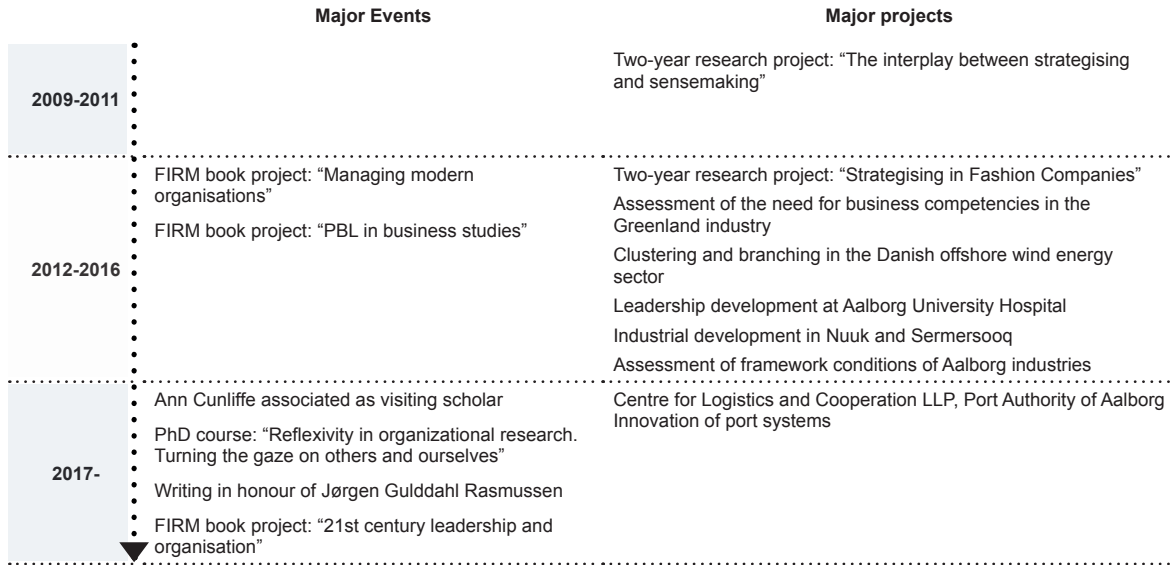
Our research takes its point of departure in concrete organisational challenges that are ongoing and in various ways influence the everyday practice within organisations. This focus will continue to be the anchor point in future research processes. We will prioritise further development and strengthening of concrete practices, resources and methods with a view to engaging in the further development of organisational life.

To illustrate the development that the group has been through, the following timeline has been generated:

Research Areas

Common for the group's research areas is the interest in meshing theory and practice - often in action research/learning processes where the aspects of engaged scholarship are prioritised. The research group has focus on exploring theoretical strands from a business-oriented and managerial perspective on

Timeline



organisations. Often the research conducted takes its point of departure in various theoretical terms. Based on the specific, organisational challenge researched, these are combined to develop new and thoughtful insights and knowledge about the ways in which organisational life unfolds and can be understood. More specifically, the members of the group engage in research within the following theoretical perspectives:

The group strives to further strengthen our role in developing a viable organisational life, primarily by applying engaged scholarship methods, but also by research within new, emerging theoretical fields such as planetary economics, IOT, co-creation etc., assuming a business-oriented and managerial perspective on organisations. Furthermore, future research activities will be aimed at enriching existing, scientific knowledge within these theoretical fields, both nationally and internationally.

Strategy	Organising	Management
Leadership	Organisational networks	Business models
Storytelling	Discourse	Identity work
Communication	CSR	Organisational culture
Materiality	Management learning	Innovation
Co-creation	Change management	Ethics

5.2 Organization, Composition and Financing

Current Research Staff as of 31 December 2017

Professors, Professors with Specific Responsibilities

Jørgen Gulddahl Rasmussen
Kenneth Mølberg Jørgensen

Associate Professors

Allan Næs Gjerding, IMPAKT as secondary affiliation
Charlotte Øland Madsen
Jens Holmgren
Lars Gelsing
Marita Svane
Mette Vinther Larsen – Research Group Leader
Ole Uhrskov Friis
René Nesgaard Nielsen

PhD students

Emil Saksager
Louise Brøns Kringelum, IMPAKT as secondary affiliation

External Lecturers

Berit Møller
Jesper Engsig
Lars Bonderup Bjørn
Renate Nielsen
Torben Abildgaard Hansen

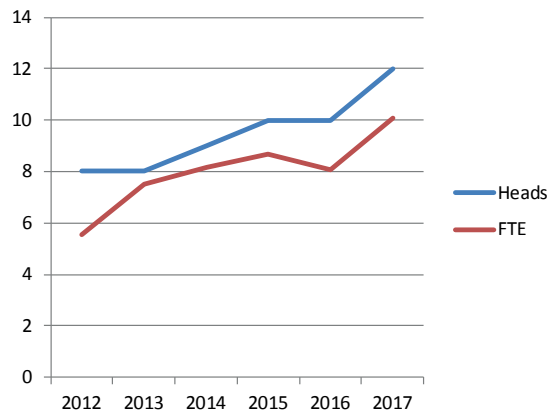
Staff Development

The development in staff over time is illustrated below in Figure 5.1.

FIRM is formally organised with a group leader. Informally, it is organised as a distributed entity where all the members of the group participate in the everyday management. The group has a coordinating research group leader who on behalf of the group participates in formal meetings, seminars and other activities where the group needs to be

represented. Additionally, the group is organised in a varying number of working groups that focus on topics such as strategy, impact, external funding, research and teaching coherence etc., depending on the current needs.

Figure 5.1: Research Staff Development 2012-2017, Heads and FTE



It is important for the research group to maintain gender equality and age composition in a reasonable manner. In the further development and recruitment process, we will focus on maintaining diversity with respect to gender and age.

The research group consists of research staff members with a Danish background, reflecting that the majority of teaching activities for which the research group is responsible is conveyed in Danish. This does, however, not mean that the research group does not have an international orientation. The research group prioritises active participation in international networks, conferences and other research activities.

Additionally, we invite international researchers to participate in research seminars, supervision and evaluation processes for the purpose of recruiting them as associates for a shorter or longer period of time.

5.3 Strategies, Activities, Output and Academic Impact

The research group's strategic focus in the period 2012-2016 evolved from the group's acronym: Firm, Innovation, Relations and Management. The strategy from 2017-2021 expands the scope and focus of the group to include focus on strategising, public sector innovation, business models and

reflexivity in management. The table below summarises the research group's strategic view on the interplay between publication, research training, external funding, research collaboration outside the research group, third leg mission activities/ collaboration outside research and research and teaching coherence and will be further elaborated in the following sections.

<p style="text-align: center;">Cooperation with organisations</p> <ul style="list-style-type: none"> • Joint development of research focus • Co-creation of problem-solving within the organisation • Written testimonials based on cooperation • Inviting organisational members into co-authoring articles and book chapters 	<p style="text-align: center;">Research activities</p> <ul style="list-style-type: none"> • Publications in peer-reviewed journals • Publications in peer-reviewed books • Conference attendance based on peer-reviewed papers • PhD courses • Applying for external funding • International and national cooperation with leading scholars
<p style="text-align: center;">Cooperation with students</p> <ul style="list-style-type: none"> • Research-based teaching activities • Cases from ongoing research are being explored in classes • Network used to support student admittance to practice, student jobs, internships etc. • Written testimonials based on cooperation • Alumne activities like LinkedIn etc. • Graduated students act as ambassadors 	<p style="text-align: center;">Transparency and visibility</p> <ul style="list-style-type: none"> • Testimonials visible on webpage • Sharing of knowledge in networks, master classes etc. • Updated ORCID, VBN and Google Scholar profiles • Holding positions in editorial boards in scientific journals

Publication

As FIRM is a research group interested in participating in developing organisational life and new theoretical insights into themes within a business-oriented and managerial perspective on organisations, publications are prioritised. The group is quite heterogenic in its research focus as documented by the below list of publication houses and journals.

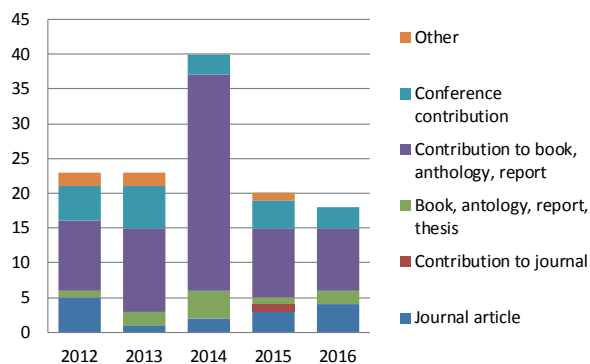
The group prioritises publishing in books as well as journals in Danish and English, the reason being that the group wants to engage in dialogues with both national and international academics to strengthen existing collaborations and focus on building new research collaborations. Furthermore, the group wants to be in dialogue with both academia, primarily through journals, and practitioners, primarily through books that explore how practical and theoretical insights can be combined in a language that is accessible and meaningful for practitioners.

Historically, the group members have prioritised publishing of a “FIRM”-anchored book, focusing on relevant themes from a business-oriented and managerial perspective on organisations. Historically, it has primarily been members of FIRM who have written chapters in these books. In the future, the strategic aim is to maintain this prioritisation unless – due to the focus of coming books – it would be more constructive to include researchers and authors outside FIRM.

Due to a more strategic focus on publishing in journals, the research group has since 2014 prioritised an increase in the amount of journal articles published by members of FIRM – either individually or in group constellations. Regarding the production of journal articles, FIRM prioritises

co-authoring with fellow researchers both inside and outside the group in order to strengthen knowledge sharing and different research foci. It is expected that the group will uphold and prioritise this strategically.

Figure 5.2: No. of Publications Split on Publication Categories



Forward-looking reflections

- Focus on publishing books and current publication types with an increased focus on scientific journals. This should lead to an increase in BFI.
- Continue attending conferences and focus on developing conference papers into journal articles. This should lead to an increase in BFI.
- Conduct writing workshops.
- Write more papers together.
- Create more research projects together.

In 2016 and 2017, FIRM published in a number of journals. In the following, we present the journals and publishing houses:

	2016 - Published	2017 – Submitted and/or published
Journals	<ul style="list-style-type: none"> • European Academy of Management • Management Learning • Process Organization Studies • Journal of Modelling in Management • European Journal of Cross-Cultural Competence and Management • European Journal of Higher Education 	<ul style="list-style-type: none"> • Work, Employment & Society • International Public Management Review • Competition & Change • Journal of Business Models • Research in Transportation Business and Management • Journal of Management and Organization • European Group of Organization Studies • Journal of Management Inquiry • Management Learning • Learning Organization • Academy of Management • Journal of Business and Economics • Nordiske Organisasjonsstudier • Vaasa Conference on International Business • TAOS • Academy of Management Review • British Academy of Management
Publishing houses	<ul style="list-style-type: none"> • Aalborg University Press • International Journal of Appreciative Inquiry • Emerald Group Publishing • Hans Reitzel Publishers • John Benjamin’s Publishing Company • Adonis & Abbey Publishers • Taylor & Francis • Springer Verlag 	<ul style="list-style-type: none"> • Aalborg University Press • Palgrave MacMillan • Information Age Publishing • Educação Unisinos • Routledge

Forward-looking reflections

- In the future the research group aims to uphold publishing in the existing journals and publishing houses
- Besides, the research group is interested

in exploring whether it would have strategic relevance for the group to direct attention toward other journals and publishing houses

Research Training (PhD)

It is a strategic goal for FIRM to participate in supporting young scholars and the transition from student to researcher. Historically, the group has always included PhD students. Over the last four years, the number of PhD students has increased from one to two active students. In the future, the group wants to uphold this number. There have been no drop-outs during the period.

As PhD students are recruited, the group aims to further develop new insights and knowledge regarding a business-oriented and managerial perspective on organisations within the research areas presented previously.

To further strengthen the PhD environment in FIRM, the following initiatives have been put in place:

- A local FIRM buddy arrangement has been established
- Two PhD seminar days will be organised each year
- A PhD course will be conducted in January 2018
- Maintain PhD students in the research group
- A writing workshop will be conducted each year
- Guest researches will be invited

The academic impact of these activities is the opportunity for new researchers to gain knowledge and experience.

External Funding

FIRM does not have extensive experience with application for large external funds. Historically, the group has been able to obtain minor local public funding or funding from private collaborators who have participated in research projects. As mentioned above, in the period 2012-2016 FIRM hosted three

externally funded projects which amounted to DKK 1,447,000.

The research group needs more competences and experience in this field, and in order to further develop such competences, the research group will continue to focus on minor funds. However, at the same time the group will focus more strategically on acquiring competences that allow it to apply for major funding over the coming years. The academic impact of these activities is an increase in the resources to perform more or higher quality research.

Research and Teaching Coherence

The research field of the group covers organisation and strategy in various respects, including strategy as practice and in practice, intra- and interfirm relations, organisational development and design, business modelling and business model innovation, sense making in organisations and leadership, innovation strategy and the design of innovation processes, organisational learning, decision making and power in organisations. All of these areas are reflected in the teaching obligations of FIRM. The teaching obligations cover the following studies:

- Bachelor in Business Administration (BA)
- Master in Organisation & Strategy (MSc)
- Diploma in Business Administration
- Diploma in Organisation & Strategy
- MBA
- MPG (Master of Public Governance)
- PhD courses

The academic impact of these activities is the creation of learning areas where the teachers can gain knowledge and experience that is translated into research.

Research Collaboration Outside the Research Group

Name of collaborator	Type of collaborator/Why is this of strategic importance to the group?
Tove Brink, Markets, Organization and Behavior (MOB) Research Group, Department of Sociology, Environmental and Business Economics, University of Southern Denmark	Innovation in port systems in collaboration with large Scandinavian companies within offshore wind energy. The collaboration contributes to developing knowledge about the interplay between strategy, organisation, inter-organisational and submarket dynamics. Furthermore, the collaboration will contribute to the establishment of a new Danish hub for offshore wind energy.
Jesper Raakjær, Department of Planning (Aalborg University) and Head of Development, Port of Aalborg	Collaborative business models in port systems, comprising a number of firms at the Port of Aalborg and other Danish firms. The collaboration contributes to the development of knowledge about business model innovation that transcends organisational boundaries and develops new value chains. Furthermore, the collaboration is an important resource in the operation of Centre for Logistics and Cooperation LLP that serves the triple purpose of acting as R&D department for the Port Authority of Aalborg, as a bridge between university and industry and as a consultant for companies within port systems in Denmark.
Thomas Klausen, CEO, Danish Fashion & Textile	Research project that explored the interplay between strategising and organising, where leaders based on an action learning approach worked with developing and strengthening reflexivity in their relational leading. The strategic significance of this project for FIRM has been to further develop knowledge and insights as to the way in which strategising and organising are entwined.
Elena Shulzhenko, PhD, former post-doc, Aarhus University, now External Lecturer, Copenhagen Business School	Research project on employee participation in implementing new technology in the public sector with focus on the elder care area. The project combines innovation, leadership and change management which are core elements in FIRM's strategy.
Frans van den Bosch, Professor of Management Interfaces between Organisations and Environment, Rotterdam School of Management	Collaborative business model innovation, with special emphasis on global value chains and the internationalisation of ports. Collaborating to develop knowledge about the globalisation of distriports and the development of ecosystems within and across port systems.
Thomas Klausen, CEO, Danish Fashion & Textile	In the further development of the university's role with respect to relational leadership and reflexivity, a research project focusing on developing customised master and executive programmes will be explored. Danish Fashion & Textile has more than 800 member organisations and will thus be a strategically significant contributor in the generating of knowledge about the future role Aalborg University may play with respect to strategic and managerial development within organisations.

Peder Key Christiansen and Jens Lundholm Pedersen, Skagen Uddannelsescenter (Skagen Education Center)	Presently, we have two ongoing projects: Clean Coast and Nordic Network for Entrepreneurship and Job Creation. It is expected that this collaboration will continue. Skagen Education Center is important as it provides access to the network of municipalities in Western Sweden and South Norway. The possibilities for interorganisational collaboration and regional development projects concerning sustainability, corporate social responsibility and circular economy will be explored.
The Centre for Narratological Studies (CBS). A research unit at the Institute of Design and Communication, University of Southern Denmark.	Focus on storytelling organisations. Exploring the narrative in all its aspects. The current topic is counter-narratives in and around organisations. A key objective is to expand the potential of counter-narrative research in order to identify counter-narratives as a productive resource for organisational change/development.
Collaboration with Professor Dianne Dredge, Department of Culture and Global Studies, Aalborg University, at the centre for Tourism, Education, Futures Initiative (TEFI).	TEFI represents a new and inclusive tourism academy. It is a social movement comprised of people (educators, researchers, industry actors and community members) who seek to facilitate an alternative type of tourism that is sustainable and just, that delivers blended social, economic and environmental value, and that promotes vibrant flourishing communities. Seed money has been granted to prepare a horizon application on Creative Resilient Economies for Alternative Tourism and Education.
Collaboration with Professor Christian Koch, Chalmers University of Technology Construction Management, Sweden	Focus is on management and strategy, presently on a research project where focus is on middle management in construction companies and how they contribute to innovation.

The group has not identified any aspects of current research that are not reflected in teaching. The group is still in the process of discussing options regarding development of specific courses and training sessions for practitioners that may take place within companies and organisations.

Third Mission Activities and Collaboration Outside Research

The group has six types of third mission activities:

- Case study research based on an engaged scholarship approach, involving a range of private and public companies throughout Denmark and Greenland. The research is to a large extent based on co-production of knowledge that the involved companies use for changes in strategy, organisation, leadership practice and/or operations.
- Follow-up research on collaborations between private and public companies that focuses on turning implicit knowledge accumulated through experience into explicit knowledge, i.e. in the form of concepts, process models and/or business models that can guide future action.
- Facilitated round table discussions among companies based on an action learning approach, where researchers assist the companies in developing real life case stories which the companies present to each other in order to derive feedback, ideas and guidelines for future action. The process comprises several rounds of discussions and contributes to double loop learning and reflexive practice.
- Inclusion of companies in university education where the companies contribute to teaching, and where students and companies interact

in the analysis of various types of strategic and operative challenges that the companies are engaged in. The process contributes to problem-solving and strategic development in the companies.

- Leadership development, ranging from interactive processes on personal leadership in private and public companies to the development of leadership training of union representatives.
- Development of concepts and processes for urban planning, comprising infrastructure for collective transportation, interplay between private companies and public authorities and smart city development.

The academic impact of the third mission activities is primarily to bridge the gap between academia and practitioners and establish closer ties between theory and practice, especially regarding the manner in which practices of organisational and leadership behaviour in private and public companies are reflected in the way research is done and knowledge developed.

5.4 Societal Impact

User-oriented reports:

- Kristiansen, J.N., Kringelum, L.B., Gjerding, A.N. and Høy, P. (2016). Markedsundersøgelse for containertrafik i Nordjylland: Muligheder for Den Intelligente Containerterminal. Report: Center for Logistik og Samarbejde.
- Krabbe, P., Holstein, C. (2015). The Intelligent Port. Port of Aalborg.

Scientific papers:

- Kringelum, L.B. and Gjerding, A.N. (2017). Conceptualizing zones of business model

innovation for exploration and exploitation in value networks. Submitted to Journal of Business Models.

- Gjerding, A.N. & Kringelum, L.B. (2017). Effective role adoption in port governance: Embedding relational capabilities in structures of value co-creation and co-capture. Submitted to Research in Transportation Business and Management
- Gjerding, A.N. and Kringelum, L.B. (2016). Strategic Collaboration on Business Model Innovation. A transaction cost perspective. Paper presented at the EURAM Conference, Paris, France: 1-4 June.
- Gjerding, A.N. and Kringelum, L.B. (2015). Innovating through collaborative business models. Generalizing business model innovation. Paper presented at the DRUID conference on The Relevance of Innovation, Rome, Italy: June 15-17.
- Kringelum, L.B. (2015). A cognitive perspective on the antecedents of business model innovation: The case of the Port of Aalborg authority. Paper presented at the DRUID Academy Conference, Rebild, Denmark: January.

Press and media:

The collaborative efforts resulted in a broad media-interest in regional, national as well as industry-specific outlets, including: Transportmagasinet, Nordjyske, Lager & Transport, Industri-Nyt | Dag.dk etc.

Collaborative Business Model Innovation in a Port System

From 2014-2017, members of the FIRM research group engaged in an action research project focusing on collaboration and business model innovation regarding the port system located in and around the Port of Aalborg. The project focused on developing port organisations, establishing collaboration between public and private organisations in the port system and organising activities and resources across organisational boundaries. The project included the co-financing of a PhD position by the Department of Business and Management, the Port of Aalborg Authority and Mammoet Wind. In addition, a researcher from the Center for Industrial Production participated as a co-supervisor to add knowledge about logistics and planning to the research process.

The research was based on facilitating workshops between organisations in and around the port system. Due to the action-based nature of the project, the short-term impact was especially centred on the internal development of the two co-funding organisations. At the Port of Aalborg, this process inspired the current approach to establishment of knowledge-based collaboration across organisational boundaries. This focus area is expected to be pursued further by a future industrial PhD affiliated to the FIRM research group. In addition, both the short-term and long-term impact includes the establishment of resource-sharing initiatives in the port system as an on-going project, spun-off from the initial research project. Thus, the research has impacted the regional development of port organisations. As part of the user-directed impact, the researchers have participated in and presented the research process at numerous industrial workshops and seminars.

The project has resulted in the publication of a PhD thesis and several conference papers presented at international conferences, including the European Academy of Management, DRUID and the DRUID Academy. Two papers affiliated with the research project are currently pending review in international journals, and more data is to be utilised for future publication and teaching cases.

In addition, the research project has provided material which has been included as both action cases and teaching cases to provide the foundation for problem-based learning at the fourth semester bachelor in Business and Management and first semester master in Organisation and Strategy. In addition, multiple student projects have been included in the research project, including fifth semester bachelor students focusing on the port organisation and third semester interns from the master programme.

Concerning the impact outside academia, the researchers affiliated with the project have been involved in establishing the Centre for Logistics and Collaboration. The Centre was established with the aim to create a knowledge centre for Danish ports based on affiliation by both consultants and researchers. The Centre currently employs a director, one senior consultant, two junior consultants and one secretary on full-time basis as well as three researchers (two associate professors and one PhD student/assistant professor) who have diverse work affiliations to the Centre. The Centre is engaged in consultancy and applied research projects in private and public companies

5.5 Future Plans

FIRM is based on an acknowledgment that: “In theory, theory and practice is the same, in practice it is not” (Einstein). The founding assumption in the group is that new understandings emerge, new solutions are identified and new knowledge is co-constructed by meshing theory and practice. FIRM will continue to work proactively with balancing the interplay between theory and practice in relation to teaching, research, dissemination and third mission activities.

As the self-evaluation has indicated, there are areas where the research group over the years has built competences which it wishes to maintain and strengthen. These revolve around:

- The close linkages between research and teaching activities
- Joint book publications every second year
- Research practiced as engaged scholarship
- Increasing the societal impact of research projects
- Exploring various ways of disseminating research results in a language and via publication channels that are relevant to leaders and other organisational members
- Having at least two active PhD students associated with the group
- Continue attending conferences and focus on developing conference papers into journal articles. This should lead to an increase in BFI.

At the same time, there are other areas where FIRM is beginning to increase its competences. It is strategically significant for the group to strengthen these areas, which will also support the overall strategy of Aalborg University. The purpose is

to prioritise these activities over the next two to four years and during that period to build more competences and incorporate the activities into the culture and everyday practice of the group members:

- External funding
- Publication in top-rated research journals
- Collaborations with external researchers with the aim to build stronger ties between a local and more international focus on relevant themes within a business-oriented and managerial perspective on organisations
- Involve practitioners as co-producers of scientific knowledge through collaboration between research and business with a focus on business impact
- Further exploring the role universities play in supporting lifelong learning activities for practicing leaders in both the private and public sector
- Facilitating writing workshops both inside and across the boundaries of the research group

The research group is presently working to develop a new strategy, where the input and priorities presented here serve to create linkages between the university's strategy, initiatives and focus areas that will shape FIRM's strategising.

5.6 Panel Evaluation **[to be completed during the visit]**

Observations

Recommendations

6. Management Accounting & Control (MAC)

Executive Summary

The Management Accounting & Control (MAC) research group is a relatively new research group consisting of a research staff of 17 members, of which 2 are PhD students. The group is responsible for one of the largest Master of Science programs at AAU – cand.merc.økonomistyring (Management Accounting & Control) – which has been very successful over the last few years with many students enrolled. Several of the group members have full administrative responsibilities within teaching, leaving less time for research. Overall, the administrative duties and the teaching obligations do not match the capacity of the group, and our aim is to increase the number of associate and full professors.

The research group conducts both quantitative and qualitative research on management accounting. This often takes an interdisciplinary perspective. The group has had a steady output of BFI production during the evaluation period. Several research projects are carried out in close collaboration with companies, and in several cases the projects have an applied focus. In 2016 the group produced 48 publications, of which 10 were journal articles. Regarding external funding in 2017, the group received one grant of DKK 1.8 m.

Several research group members are very active in the press measured by the number of press clippings. This itself has a huge impact on society, as the group contributes to the public debate on

important topics such as the sale of government assets to private companies, how the banking sector works, and accounting in public institutions. The research group has a pipeline of ongoing research projects with a potential for high-level publications, and projects with a societal impact. Moreover, among its members are several young scholars, so the future of the research group seems promising.

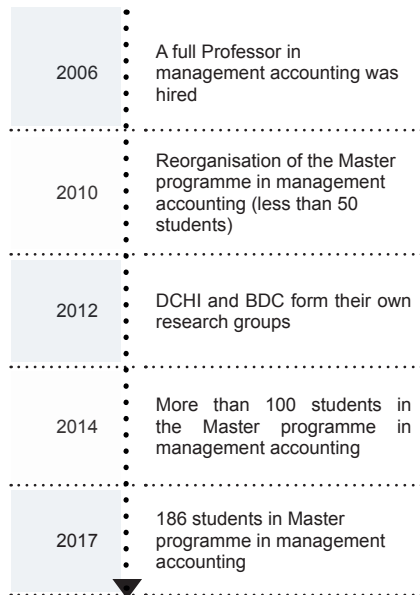
6.1 Research Profile

The MAC group was formed in 2007, making this a relatively young research group. The research group has a close relation with the master line in Management Accounting & Control. Most of the research-active members of the group are young scholars under the age of 40. In its first years of existence, DCHI (Danish Centre of Health Improvement) and BDC (Business Design Center) were integrated members of the group, but a few years ago they formed their own two independent groups. Hence, members have left the group, and new young-scholar members who have a more narrow focus on management accounting have joined. Yet, within management accounting it seems very difficult to recruit new scholars, i.e. assistant/associate and full professors from the research community in both Denmark and internationally.

The research profile of the group is broad, in the sense that it covers both quantitative and qualitative

methods. The theories applied also range broadly. Below, a partial list of ongoing projects is provided to present the group's main research agenda. The projects appear in a non-prioritised order.

Timeline



Quantitative method:

- Capital budgeting practices and management control using a cross-sectional survey
- Business intelligence using largescale survey evidence
- Management accounting & control in the banking sector
- A very large-scale international survey project on management control systems in 10 countries
- Finance Function roles (CFO roles) and performance, a large-scale survey of Danish organisations
- Quasi (longitudinal experience of performance) management accounting and Learning Organisation through the use of lean in staff functions at a large well-renowned manufacturing company
- Lean and Management Accounting using both US-based survey data and Danish case studies

Qualitative method:

- Supply chains and management accounting (Total-cost of ownership) using a case study
- ERP systems and accounting numbers using a seven-year longitudinal case study. Actor-Network-Theory
- Knowledge Management and Management Accounting – 3 case studies

- Management Accounting Control systems and ambidexterity – case study of a multinational manufacturing company
- A comprehensive longitudinal case study within Healthcare focusing on the development of coherent patient flows through cross unit management and integration (process-oriented organising)

Furthermore, the group has a few projects in the pipeline, and ideas for the upcoming strategy:

- Financial Stress and Psychological Stress using data from 15 years of financial reports and Danish medical records
- Cost accounting in new product development using case studies, collection is ongoing.
- Management accounting in cultural institutions (museums) using longitudinal data from the Danish government.
- Collaboration with researchers from the Center for Organization, Management and Administration (COMA), a cross-departmental center at AAU, concerning intersectional issues between management control, leadership and organisational design

Our strategy is to expand our focus by including experiments within organisations, as, in contrast to many other countries, we perceive this to be a competitive advantage, due to our access possibilities to Danish companies. This could include a combination of surveys conducted within case companies with other types of data such as interviews, observations, and archival data. Moreover, we are trying to focus our future efforts in specific sectors/industries in order to gain more societal impact by developing experts. A controller panel is on our wish list to integrate our group

more with practice. During the last few years we have educated many graduates in management accounting, which provides us with this opportunity.

6.2 Organization, Composition and Financing

Current Research Staff as of 31 December 2017

Professors

Christian Nielsen, BDC as primary affiliation, Head of Department from January 2018
Per Nikolaj Bukh

Associate Professors

Erling Jensen (head of School of Business and Economics)
Frantisek Sudzina
Frederik Duus Zachariassen (part time employment)
Henrik Find Fladkjær (head of study board)
Jeppe Gustafsson
Niels Erik Sandalgaard – Research Group Leader
Sirle Duus Bürkland (part time employment)
Thomas Borup Kristensen

Senior Advisor

Lars Krull (head of School AAU Executive Business and Social Sciences)

Assistant Professors

Daniel Hartz
Thomas Toldbod
Niels Lennon
Henrik Nielsen (part time)

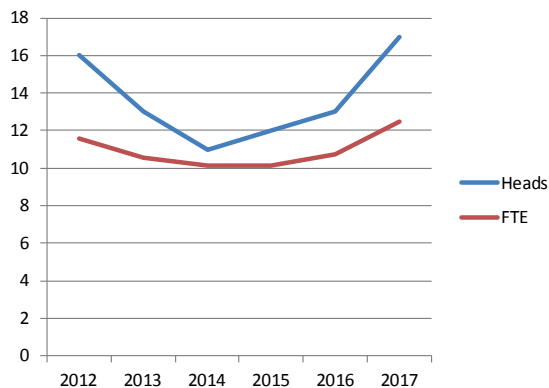
PhD Students

Claus Højmark Jensen
Stephan Skammelsen Andersen

Staff Development

The group has been somewhat loosely coupled in the past with few integrating projects. For this reason, the research group leaders have acted as coordinators arranging research seminars and presentations. As can be seen, several members of the research group have administrative duties such as head of school, or only have a part-time position, leaving less time for research. Figure 6.1 shows the development in staff. It shows quite stable numbers, but the turnover has still been quite high as subgroups have been separated from the group (Business models researchers and health economist), and new members have joined the group. In terms of gender split, the group is quite skewed to males. However, we have employed our first female associate professor as of 2017.

Figure 6.1: Research Staff Development 2012-2017, Heads and FTE



It is very difficult to recruit assistant, associate, or full professors within this research area; hence, the group has experienced a heavy teaching load during the past few years, with the increasing intake of students. However, we expect the teaching load to keep somewhat stable in the future, and we are

aiming to add more staff both organically (through own PhD students) and by recruiting from other universities.

With regard to internationalisation, the research group has worked on expanding its international network. This has resulted in a new associate professor from Estonia. Moreover, a couple of the group members have established cooperation with a US-based professor. Some research group members have collaboration with Warwick Business School and Copenhagen Business School on the conduction of research in the hospital sector. Our ambition is to hire an internationally renowned part-time professor to interact with the many young researchers of the group in order to facilitate publishing.

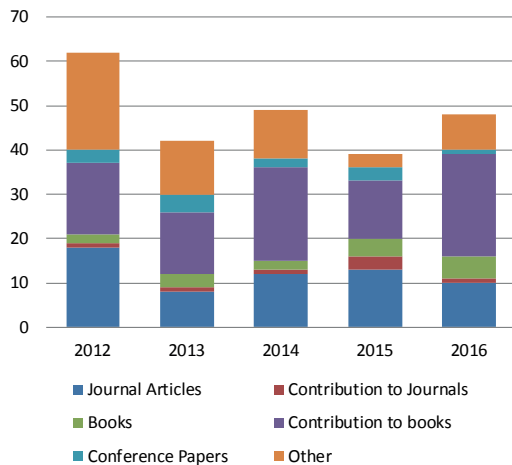
6.3 Strategies, Activities, Output and Academic Impact

Publication

Below we present the counted output of the research group. The overall output, Figure 6.2, has decreased if 2012 is compared to 2016. Yet, if 2013 is compared to 2016, the output is quite stable. 2012 included some publications on health economics, and this topic is not part of the counted published papers from 2013. The main publication types are journal articles and book chapters. Only a few papers/book chapters have been published at level 2 (Figure 6.3), and we would like to see an increase in these in the future. Instead, the focus of some of our group members has been on decent level 1 journals, and one of the papers published here received an Emerald Literati Award (Outstanding paper award). In general, we believe that the research capacities/

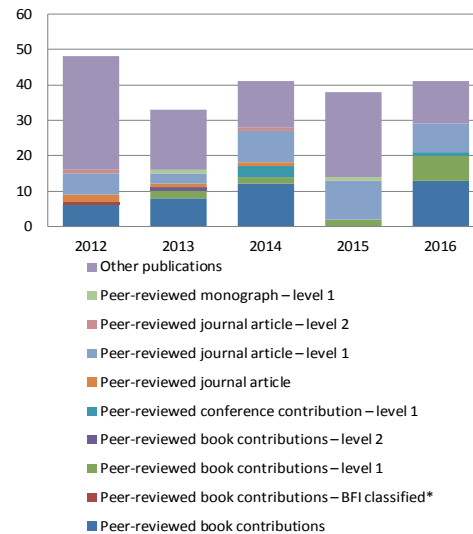
capabilities are growing for young researchers, thus increasing expectations for our long-term future research output.

Figure 6.2: No. of Publications Split on Publication Categories



The high teaching load in the past has been an obvious obstacle in utilising the research potential in the group. Some group members have a significant amount of collected data, both surveys and cases, which needs time to be developed into research papers giving a pipeline of projects to capitalise on in the future. The future aim of the group will be to publish in internationally recognised journals, but also, to a lower degree, in book chapters. This calls for more collaboration in the group, and with researchers outside of the group. We intend to stand on two legs – one based on quantitative and one on qualitative research. These two legs are expected to be balanced in terms of resources and expected output. Our main focus will be on survey research as well as case studies in close collaboration with the involved organisations.

Figure 6.3: No. of Publication split on BFI categories

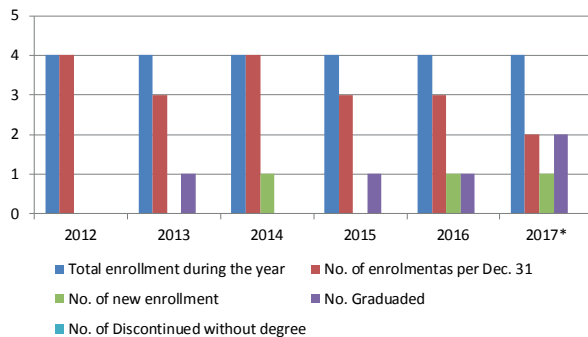


*In 2012, book contributions were not divided into levels 1 and 2

Research Training (PhD)

As shown in figure 6.4, the number of PhD students is relatively stable in the period. The PhD students come from the master programme in management accounting at AAU as well as from other institutions. Moreover, research group members are involved in supervising PhD students enrolled at other departments. Hence, the research group members are actually supervising a larger numbers of PhD students than the table below indicates. In general, there is a good environment in the research group, hence also for the PhD students. In recent years, the physical attendance of research group members has increased, especially during the last couple of years, which has been reflected in our good work environment. This reputation of a good work environment has had a positive effect on our ability to recruit researchers from other universities.

Figure 6.4: PhD Enrolment (2012-2017)



External Funding

External funding has not been a part of the core activities of the research group, as the number of enrolled students provides financing. The funding granted has been a product of individual researchers' network. Yet, research group members have been involved in acquiring more project funding for projects anchored in other departments of the University. In recent years, a grant for a PhD scholarship has been obtained. This amounts to DKK 1.8 m.

Research Collaboration Outside of the Research Group

The group has several research collaborations outside of the group. Some of these collaborations are concerned with the funding of projects. An example of this is our collaboration with Deloitte regarding PhD project funding. We have also had collaboration with Center for Industrial Production (at Aalborg University) regarding the supervision of PhD students as well as with the Department of Communication and Psychology (at Aalborg University) regarding co-supervision of one of their PhD students. We also

have research collaboration with other universities. An example of this is our collaboration with Professor Larry Grasso, Central Connecticut State University, regarding lean accounting. There are more collaborations than these, but these are currently the most important examples. In addition, there will often be some kind of collaboration with companies in connection with case studies conducted.

Research and Teaching Coherence

The research group is the only operator involved in the master study in management accounting & control. Hence, the group is responsible for the operation of this programme, and for the development of it. The programme has been a huge success during the last 5 years. Our graduates get a relevant job fast, either in the local area or in other parts of Denmark. The research group members also teach at the executive programmes and at the bachelor's programme. Research conducted by the research group is activated in teaching sessions, and new courses are developed to accommodate the communication of new research from the group. We believe this is part of our success with the master programme in management accounting.

Third Mission Activities and Collaboration Outside of Research

The research group has some of the most active researchers measured on press clippings at AAU. Several group members perform very high press activity, which contributes to building a good reputation for AAU and the Department. Table 6.1 shows that our press contribution is now spread out on more researchers from 2014 and onwards, which is positive for the group. It is expected that this activity will grow even more in the future.

Table 6.1: Numbers in Danish Broadcast Media

	2012	2013	2014	2015	2016
No. of Press Cuttings in Danish Broadcast Media	281	451	321	368	392
Most cited group member's share of press cuttings in Danish Broadcast Media	0,75	0,79	0,65	0,56	0,58
No. of references in Danish Broadcast Media	1073	1512	1437	1764	1914
Most cited group member's share of references in Danish Broadcast Media	0,79	0,82	0,59	0,59	0,6

Note: Infomedia statistics is based on primary research group affiliation.

6.4 Societal Impact

For impact outside academia (societal impact) we use the definition by REF used in the UK:

Societal impact is 'an effect on change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life beyond academia'.

To gauge the societal impact and establish a systematic approach, we use the logic model:

input → processes → output → outcome →
societal impact

(Epstein, M; K. Yuthas – 2014: Measuring and Improving Social Impact) to structure our two impact case descriptions.

6.5 Future Plans

The future plan for the group is to ensure that the group members have more concentrated time for research. This should ensure that the research projects outlined previously will be carried out.

Even though we have new projects in pipeline, the primary focus the years to come will be on utilising the data already collected and making sure that this results in publications – and concentrated research time is a prerequisite for this. Furthermore, our aim is to recruit more researchers, and a part-time professor is also a priority. This can be summed up in the following bullet points:

- Decrease the teaching load for group members, leaving more concentrated time for research
- Utilise the data already collected to increase the amount and quality of publications
- Recruit more researchers, including a part time professor

6.6 Panel Evaluation [to be completed during the visit]

Observations

Recommendations

Measuring the Performance Effects of Lean

This case is an offspring of a PhD project in the research group on measuring the effects from Lean operations in excellent Danish manufacturing companies. This project has resulted in multiple published research articles in high-level academic journals, showing how performance arise from Lean and how to account for these in a management accounting measurement model in companies. This can be considered the tangible output.

The outcomes of this research are multiple. The research group has utilised this to change a course on the master programme in management accounting & control. Another outcome is a new module in the executive programme MMT at AAU. A third outcome is a changed lean leadership course held by DI (Confederation of Danish Industry), and keynote speaker contributions on this topic at their main conference.

The impact of these outcomes is an improved master programme. This programme has grown to triple size (number of students) over the past few years. Moreover, the students get relevant jobs shortly after they have completed their studies. This success is part of a changing mind-set in companies in Northern Jutland, where the trusted advisor may now equally well be a management accountant or a certified public accountant. This we have documented with a specific testimonial from a CFO of one of the largest companies in the region. They have now started to hire controllers with a management accounting background. This research project is just one example of how the master programme has changed based on research from the MAC group to fit the requirements of Danish companies, in which the roles of finance functions are increasing, making employees in these functions business partners and not just corporate “bean counters”. We have also documented this impact in a local newspaper article tracking the career of a former student. He is employed as a CFO of an SME, and according to the owner and CEO, this former student helped creating many new jobs in this company using his business mind-set.

Another impact of this case is the training of managers at the E-MMT programme. This includes training of high-level managers from well-established companies. This programme has tracked their benefits to the companies of these managers using testimonials in a recent publication by MMT. DI has also documented that the leaders going through the lean leadership programme have increased the performance of their companies.

A last outcome of this research is a current ongoing research project with a global company based in Denmark that is well known worldwide for its ability to create superior performance. The impact of this offspring project is to be seen in the future.

7. Business Design Centre (BDC)

Executive Summary

Business Design Centre (BDC) includes 12 researchers, of which four are PhD students. During the previous five years, we have had 282 publications and 19 grants for external funding, comprising a total of more than 6.500.000 DKK.

The group has a particular focus on the underlying mechanisms that lead to novel, unique and high-performing business models in both the public and private sectors as well as on new ventures and organised social breakthroughs. More specifically, we focus on creativity and novel business model designs, business model configurations, business model narratives and the continuous innovation of business models for research institutions. The group aims to contribute to and challenge existing theories and methods related to these areas of research. It is a group in an emerging stage that has changed radically during its five years of existence from focusing on smaller external practitioner-oriented funding and smaller research projects to focusing on larger research-oriented external funding and larger research projects. Furthermore, the publication profile of the group is developing strongly towards high-ranking journal outlets and the publication pipeline. The centre could be further strengthened by developing master's degree and doctoral training programmes.

We are a group that thrives on interacting with industries, the public sector and the organisations in place to lobby and support practitioners in our

field. During the past five years, we have invested a large amount of resources to establish complex and highly advanced digital research methods for data collection (www.businessmodelsuite.com and www.academyforcreativity.com) in addition to our four cross-disciplinary educational programmes, the Business Model Journal, the Business Model Conference and our current strong dissemination and research links to industries and public partners.

We have a higher number of young scholars and PhD students compared to senior staff members. We have reached a critical mass in the development of sustainable, valuable databases related to our most important research fields through digital systems and facilitated workshops. Consequently, we intend to strengthen our research competence development through consolidation and exploitation. We do not intend to increase the number of PhD students and young scholars radically in upcoming years.

The research center has a large international network, is frequently invited for talks at international universities and has initiated the Journal of Business Models and the annual Business Model Conference. In addition, BDC initiated and runs the university-wide and international New Venture Creation, Corporate Entrepreneurship and Creative Genius semester programme Together with ORCA BDC runs the Creative Genius for Professionals programme for further education. The research

centre has a large international network, is frequently invited for talks at international universities and has initiated the Journal of Business Models and the annual Business Model Conference, both of which are seminal initiatives in the significantly growing and maturing field of business models.

7.1 Research profile

The BDC research group is an internationally oriented and interdisciplinary team with a focus on business design. It has a particular focus on the underlying mechanisms that lead to novel, unique and high-performing business models in both the public and private sectors as well as on new ventures and organised social breakthroughs. We have identified the following key areas of research that support this focus: creativity and a novel business model design, business model configurations, business model narratives and the continuous innovation of the business models of research institutions. The group aims to contribute to and challenge existing theories and methods related to these areas of research. Sub-research themes involve creativity training, scalability, corporate business models, start-ups and human capital, digitalisation, performance, disruption, PBL, benchmarking, business model narratives and configurations, university–industry collaboration, entrepreneurial psychology, entrepreneurial

laboratories, inter-disciplinarily learning processes and design, communication, teams, facilitation processes and roles, investor relations and policies.

Current research strives towards developing the world's largest database of mapped business model configurations, building the world's largest database of performed creativity training and understanding the links between creative competences and the development of novel business model designs.

The group emphasises collaboration with practitioners in the design and execution of research projects. The group has played a key role in establishing an international society for researchers related to business model research, including the founding and successful execution of the annual Business Model Conference and the Journal of Business Models.

On the next page you will find a timeline of BDC's development.

Timeline



7.2 Organization, Composition and Financing

Current Staff as of 31 December 2017

Professors

Anders Drejer
Christian Nielsen (head of department from January 1, 2018)

Part-time professors with main employment outside of the department

Robin Roslender

Associate Professors

Christian Byrge
Morten Lund (primo 2018) (Research Group Leader ad interim)
Henrik Find Fladkjær (also member of MAC)

Assistant Professors

Jesper Chrautwald Sort
Annemarie Østergaard (also member of IKE)

PhD Students

Anja Birch Nielsen
Peter Poulsen Thomsen
Kristian Brøndum Kristiansen
Mai Seidelin Nørby (SDC financed)

Adjunct professors

Søren Hougaard

Affiliated Members

Yariv Taran, IKE
Romeo V. Turcan, IBC
Stefan Schaper, Aarhus University
Marco Montemari, Marche Polytechnic University

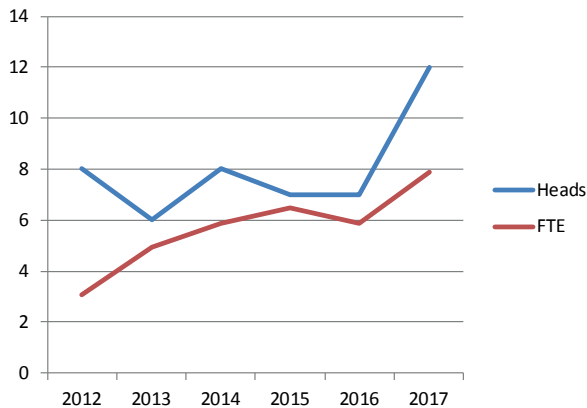
Staff Development

The group was initiated by Christian Nielsen and started out as a networking organization where the current members were members of other groups e.g. Morten Lund came from Center for Industrial Production at Aalborg University. Gradually, BDC has evolved into becoming an independent research group. However, there are still close relationships with members in other groups.

The management of the group is divided into two roles. Assistant Professor Morten Lund is responsible for the administration of the group, including staffing, budgets, funding and teaching. From January 2018 Professor Robin Roslender is responsible for the research strategy and the coordination of research

collaboration and publication as Christian Nielsen became Head of Department in 2018. This division was initiated in the beginning of 2017 to divide the role as head of the group into two different types of management. The intention was to achieve a higher quality in both areas of management for the group. The results of this approach to group management will be evident in upcoming years.

Figure 7.1: Research Staff Development 2012-2017, Heads and FTE



Each key area of research has a responsible senior researcher who coordinates activities, projects and data collection: Business Model Configurations (Christian Nielsen), Creativity and Creativity and Novel Business Model Design (Christian Byrge), and Business Model Narratives and the continuous innovation of the business model of research institutions (Morten Lund). All members of the group are involved in all key areas of research, at least to the degree of understanding the fundamental research questions and research designs as well as participating in discussions and further development; however, each member tends to have a focus on one-two research areas.

The group prioritises knowledge sharing and insight

into each other's research and other weekly or daily activities. This is supported through research group meetings, an open office space, a continuous development of culture within the group that supports knowledge sharing and support and the use of digital tools, such as Workplace, Moodle and Dropbox.

The group has strong international relations, particularly related to research design and educational development. Over the past five years, a more or less 'fixed' international relation team has been established. This team contributes and collaborates in relation to data gathering, analysis and production of publications and consists primarily of researchers with an international background, as they are from universities such as Firenze, Ancona, Dundee, Oulu, Naples, Sydney, Beijing, Malta, Madrid and Montana.

The BDC research group has a diverse composition both in terms of educational and professional backgrounds as well as entrepreneurial and employment experience; however, all group members are ambitious in terms of providing Return on Investment to the department, students, grantees and companies that choose to allocate time and resources to the research, education and projects run by BDC.

7.3 Strategies, Activities, Output and Academic Impact

The ongoing strategy of BDC is to consolidate the new initiatives that have been developed and are now led primarily by the group. This includes sustainability and the further development of the structural system for advancing and gaining influence in the field of research, such as the Business Model Journal and the annual Business Model Conference, but

more importantly, the strategy includes the further development, dissemination and exploitation of our advanced digital user-generated data collection research methods for business models (www.businessmodelsuite.com) and for creativity training (www.academyforcreativity.com). We also plan to develop new research methods to exploit the vast possibilities of meaningful data using our four cross-disciplinary educational programme: Corporate Entrepreneurship, New Venture Creation, Creative Genius Semester (together with ORCA) and Creative Genius for Professionals (together with ORCA). We intend to invite researchers to join our efforts in analysing these vast amounts of valuable data. A key aspect of this strategy is to sustain and further develop our connections with industry and public organisations as part of both the further development and dissemination of the software.

It is also our strategy to consolidate our staff competence development and organisational engagement. The proportion of young scholars is relatively large in the group. Therefore, we intend to scale down the number of new PhD projects to focus our research competence building on the current young scholars (PhD students and assistant professors).

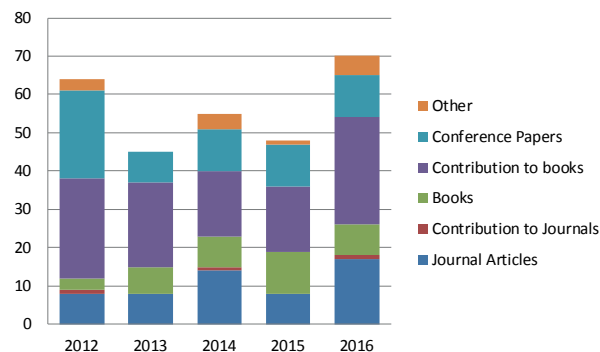
From 2018 to 2021, we intend to shift the focus in the group away from favouring new initiatives towards favouring the exploitation of the vast data we are currently developing on established platforms (www.businessmodelsuite.com, www.academyforcreativity.com, our four cross-disciplinary educational programmes and our strong links to industry and public partners). This consolidation will allow the group to take on a growing responsibility in the development of international research, particularly in relation to understanding the underlying mechanisms that lead to novel, unique

and high-performing business models in both the public and private sectors as well as new ventures and organised social breakthroughs.

Publication

Due to its involvement in industry and public organisations, the BDC group initially placed a strong focus on knowledge dissemination for practitioners; however, the group has shifted its focus to scientific journals and high-impact publications in the past few years, and this will hopefully be evident in future citation patterns. Due to the specific field in which the centre competes internationally, this group focusses more on the UK ABS list publication outlets of levels 3 and 4 than the BFI list level 2. As such, 2017 has already included several level 3 publications and one level 4 publication, which is equivalent to a world-class publication.

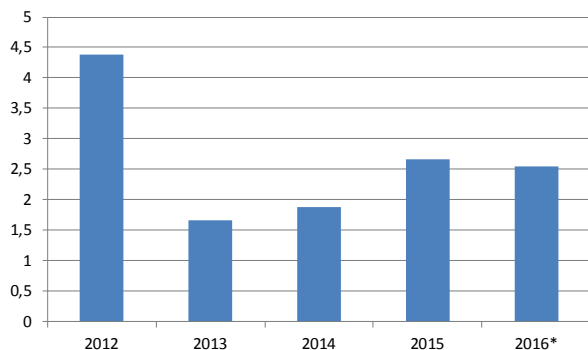
Figure 7.2: No. of Publications Split on Publication Categories



The current research pipeline for the group is strong, and it is expected to result in a significantly increased BFI score pr. FTE in upcoming years. This will be further supported by the number of young faculty members moving into more mature stages of their careers, where they will be able to produce research of higher quality.

The following ongoing research projects play an important role in the processes of data collection, developing understanding and obtaining new insights as well as in the potential for producing scientific and high-impact publications.

Figure 7.3: BFI 2012-2016



Note: FTE of Professors, affiliated professors, associate professors, senior advisors, assistant professors and post docs.

Business Model Configurations

At BDC, an ontology of business model configurations has been created. This research stream aims to create new theories in business models, business model innovation, performance benchmarking and reporting and involves a large set of international research partners and various sources of external funding. Currently we are involved with researchers from Australia, China, Italy, Poland and the UK.

This project and its international affiliations illustrate BDC's ability to influence the growing research stream of business models. The ambition to create the largest database of mapped business models using the 5V ontology and 71 identified business model configurations has already been acknowledged broadly among the leading academics in the field based on the multiple presentations of the business

model QUANT system and the multiple visits from renowned academic scholars. In addition to the key publications listed, the centre has recently co-published two Routledge Companions and have publishing contracts for 2018 with Routledge and Edward Elgar for a state-of-the-art book and a methodology handbook. This illustrates BDC's ability to collaborate with key academics internationally in these areas of research.

Key academic publications include:

- Taran, Y., Nielsen, C., Thomsen, P., Montemari, M., & Paolone, F. (2016), 'Business model configurations: a five-V framework to map out potential innovation routes', *European Journal of Innovation Management*, Vol. 19. No. 4, pp. 492-527.
- Nielsen, C., Lund, M., & Thomsen, P. (2017), 'Killing the balanced scorecard to improve internal disclosure', *Journal of Intellectual Capital*, Vol. 18, No. 1, pp. 45-62.
- Nielsen, C., Roslender, R., & Schaper, S. (2017), '10 years after the IC Guideline: uncovering explanations for the demise of the Intellectual Capital Statement in Denmark', *Accounting, Auditing & Accountability Journal*, Vol. 30, No. 1, pp. 38-64 (Evaluated as 4* in the UK Research Assessment Exercise 2017).

Business Model Narratives

BDC develops innovative business models and value creation logics with narratives, and the work is primarily performed in a lab setting with companies and entrepreneurs. The research centre has developed several training modules for companies with the support of regional and EU funding. Furthermore, BDC contributes to several EU projects involving technology development and the Internet of Things, running business model

innovation workshops and gathering data through interventionist-type studies.

Key academic publications include:

- Lund, M., & Nielsen, C. (2014), 'The evolution of network-based business models illustrated through the case study of an entrepreneurship project', *Journal of Business Models*, Vol. 2, No. 1., pp. 105-121.
- Nielsen, C., & Lund, M. (2018), 'Building scalable business models', accepted and forthcoming in *Sloan Management Review*.

Creativity and Novel Business Model Design

BDC attempts to understand the links between creativity and business design and the potential role of creativity training in the development of novel and valuable ideas. This work takes place in collaboration with international research partners and external funding. The project currently involves research partners from China, the US, Malta and Spain, but there is generally a wide span of partner universities involved in data collection across Europe. The group has had a large impact on the Danish community, especially in the educational system, and is currently working to capitalise on this impact in terms of research publications by inviting guest scholars as co-authors based on the data collected along with a unique team of international scholars.

Key academic publications include:

- Byrge, C., & Tang, C. (2015), 'Embodied creativity training: effects on creative self-efficacy and creative production,' *Thinking Skills and Creativity*, Vol. 6, pp. 51-61.
- Lund, M., Byrge, C., & Nielsen, C. (2017), 'From creativity to new venture creation: exploring the potentials of training creativity and business-opportunity spotting', *Journal of Creativity and*

Business Innovation, Vol. 3, pp. 65-88.

- Byrge, C., & Kristiansen, K. B. (2017), 'Original business modelling: potential roles of creativity in entrepreneurship training', *Business Model Conference Proceedings 2017, Business Model Community*, 2017.
- Tang, C., Hu, W., Wang, C., & Byrge, C. (2016), 'Embodied creativity training practice in east and west countries: a potential approach of gifted and special education', *Journal of Special & Gifted Education*, Bind 3, 1, 6, 2016.

Key practitioner-oriented, research-based publications include:

- Byrge, C., & Hansen, S. (2014), *Enhancing creativity for individuals, groups and organizations: creativity as the unlimited application of knowledge*. Frydenlund Academic. Byrge, C., & Hansen, S. (2015). *The creative platform: a handbook in creative processes for education and worklife*. Frydenlund Academic.
- Byrge, C. (2017), *Idea training - a creativity training workbook for age 10+*. Fonden for Entreprenørskab. 2017, Undervisningsmateriale til kreativitet. 206 s.
- Byrge, C., & Hansen, S. (2015), *The creative platform: a handbook in creative processes for education and worklife*, Frydenlund Academic, 2015. 105 s.

Continuous Innovation of the Business Model of Research Institutions

BDC was founded on the premise of research collaboration with industries. Achieving a return on investment for all stakeholder groups involved in these collaborations is difficult, and this is the competitive advantage of the Generic Lab setup developed by BDC. To date, BDC has worked with more than 200 organisations ranging from

SMEs in the local economy to global corporations to design business models that are scalable and disruptive. This research has been published in leading international scholarly journals, and the expert opinions of BDC researchers have been conveyed to policy makers and global professional organisations. Since the establishment of BDC in 2011, the focus has been directed towards the development and application of a novel way to organise the interactions between research institutions, companies and society. This is referred to as New Research Management. The mission is to impact the way in which research institutions are organised and managed. The individual management and organisational structures and techniques applied in BDC do not by themselves constitute groundbreaking methodologies; however, in their combination, they provide a unique contribution to the innovation of both BDC's business model and the business models of research institutions in general. BDC has taken the initiative to study how research institutions can improve their return on investment in interactions with organisations and society. Thus, an international team of researchers has been assembled with particular interest in developing the organisation of research institutions, universities and research infrastructures. The team's functions are to capture the characteristics of the triple-helix movement and to follow BDC as an experiment in research management by addressing the dysfunctionalities, problems and potential related to such ambitions.

Key academic publications include:

- Nielsen, C. (2016), 'Getting value for money from your Science Park', *Public Money and Management*, Vol. 36, No. 7, pp. 539-546.
- Nielsen, C., & Cappelen, K. (2014), 'Exploring the mechanisms of knowledge transfer in university-

industry collaborations: a study of companies, students and researchers', *Higher Education Quarterly*, Vol. 68, No. 4, pp. 375–393.

Key practitioner-oriented, research-based publications include:

- Andersson, L., Nielsen, C., Kanstrup, A. M., Laursen, M. R., & Bennike, K. B. (2015), *Kreative nord: teknologiske og digitale potentialer. Arkitektur & Design (A&D Files)*. (A&D Skriftserie, Vol. 86).
- Lund, M., Møller, C., Nielsen, C., & Pedersen, K. S. (2015), *Processer for etablering og drift af erhvervsfremmeprojekter: Følgeforskningsrapport på ISCR*.

Executive Boards (upcoming focus)

Working with business models on an executive board level is a complex matter. At BDC, we have designed processes and models specifically for this purpose. We teach on a national education for executive boards, and several of our employees act in positions of trust on executive boards in addition to their employment at Aalborg University. Publications specific to this research stream are yet to be submitted to publishers but are expected to have a vast impact on Danish businesses and policy makers.

Investment Ready (upcoming focus)

BDC works with investor processes and matching risk capital with business models, such as Scale-up Denmark. Recently, Adjunct Professor Søren Hougaard has joined the group. Søren is a Business Angel and together with BDC, Søren has helped establish an 'Investor Club' for regional SMEs seeking ways to boost their growth. The same club of investors is also linked to the university-wide New Venture Creation programme for students, which is operated by BDC. Current research probes the use of business model analysis processes in the discussions of value and the contractual agreements of investment processes.

Key academic publications include:

- Sort, J., & Nielsen, C. (2017), 'Using the business model canvas to improve investment processes', Accepted in Journal of Research in Marketing and Entrepreneurship

Research Training (PhD)

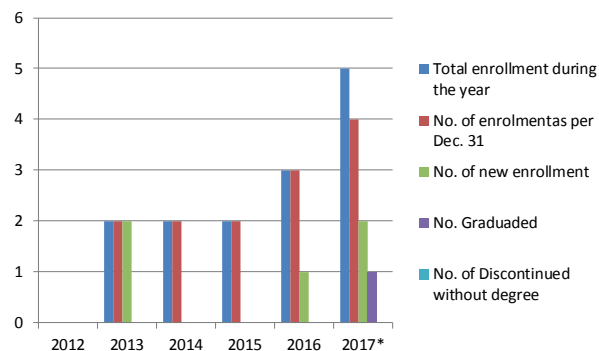
In upcoming years, we will place a stronger focus on consolidating our existing activities, particularly related to our PhD students and their projects. It is our ambition that the foundational training of PhD students and the continuous training of all researchers in the group will be of high priority and that this will also help the group achieve the goals for more scientific and high-impact publications. Our research training strategy consists of three elements: supervision, an open and open-minded office and external support.

The supervision of the group has the characteristics of an apprenticeship. New PhD students are invited to participate in existing research projects and existing general projects as well as subject-relevant teaching for our four cross-disciplinary educational programmes. As such, PhD students spend the first part of their PhD period in close collaboration with the supervisor and others in the group. We strive to teach PhD students to attract external funding as part of initiating their own research projects. As PhD students gradually become more confident in developing their own research designs, data collection processes, analyses and authorship, they move further away from the areas of their supervisors towards their own fields/sub-fields.

We have a physically open office environment as well as a professional virtual 'open office environment'. We strive for interactions within the

group to be based on an open-minded attitude, where all questions are good questions and all help is appreciated. This helps everyone, including the PhD students, maintain easy access to colleagues and participate in ongoing methodological and publication discussions as well as other discussions. We also hold regular research group meetings to stimulate the knowledge sharing and competence overflow in the group.

Figure 7.4: PhD Enrolment (2012-2017)



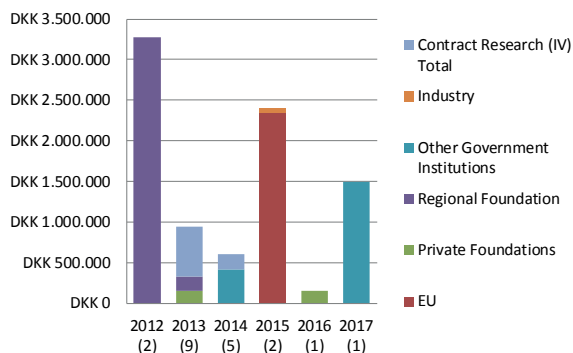
Part of our doctoral training strategy is to have PhD students from our international network to visit regularly, as this contributes to knowledge sharing and developing insights from completely new perspectives on research and teaching. We use the same network to send our PhD students for their overseas stays. Hence, our PhD students develop new perspectives and maintain continuity in their research network development. This also provides them with the advantage of locating their own international research collaborators in institutions we already have good relations with. We have made an arrangement with Robin Roslender, and he has become a second-opinion supervisor for the students to discuss all aspects of their research. We hope this will give the PhD students a more flexible

and multi-faceted orientation towards research and will ultimately give them an advantage in their future research endeavours.

External Funding

The BDC group has made a strategic shift during the past five years in terms of funding. Initially, the group had a strong focus on smaller, flexible and industry friendly funding opportunities. This was in accordance with the more explorative nature of both the search for potential partners and research questions in the field and the development of relevant projects in close collaboration with industries; however, given that the group now holds a number of data sources for potential high-impact publications (www.businessmodelsuite.com, www.academyforcreativity.com, our four cross-disciplinary educational programmes and our strong links to industry and public partners), the strategy has shifted towards exploiting these sources both in terms of scientific publications and in terms of societal impacts.

Figure 7.5: New Grants in DKK and Sources 2012-2017



Consequently, we are now more focused on larger and more science and social impact-friendly funding opportunities. From 2018-2021, the BDC group will

focus on research and social impact project funding that is intended for our current employees and PhD staff. We will not focus on funding for new PhD students during this period.

Research Collaboration Outside the Research Group

The BDC group prioritises external collaboration, including researchers from all over the world as well as local and international organisations and thought leaders. The following existing external collaborators are of high importance (as archetypes) to our research and social impact strategy (reasons explained for each point).

- SMV Network in Northern Jutland, consisting of about 200 companies. The network provides access to data, validation, student research collaboration, etc. It also provides a platform for studying our process-related methods, such as Business Model Narratives. This is important to our research projects, particularly for the further dissemination (data collection) of www.businessmodelsuite.com and www.academyforcreativity.com. It also serves as a platform for the dissemination of our practitioner-oriented results.
- Network of the Journal of Business Models as well as members of the editorial board of the Journal of Creativity and Business Innovation and peer-reviewing on other journals. The network related to these journals has provided valuable insights into new international research topics and has served as a platform for new collaborations and communication for the members of the research group, and it will hopefully be of great help in finding new partners for our PhD students and

young scholars. This network also encourages us to continuously challenge our perspectives and research methods and has helped identify potential partners in applying for future research funding.

- Network of the Business Model Conference. This network provides access to the top 10 researchers in the field of research on business models and serves as a valuable network for knowledge sharing, and it will hopefully be of great help in finding new partners for our PhD students and young scholars. This network also help us continuously challenge our perspectives and research methods and has helped identify potential partners in applying for future research funding.
- Collaborations through EU projects. EU project collaborators such as CReativity E-MOdules in Education (Cremo) and Smart City Tech, have provided a valuable platform for establishing contact within related fields of research and testing the research groups' findings in new fields using new research methods. This platform is also used to design and further develop our research methods and data collection in relation to www.businessmodelsuite.com and www.academyforcreativity.com.
- Digital network collaboration. The digital network collaboration serves as a cross-disciplinary research group that has worked with cases such as LEGO, has applied for project funding with us and has worked with data, analysis and communication processes with us. This provides us with the opportunity to study business models in the core field of digital businesses, which is essential to the understanding of business model history and development.
- Creative Genius Club and New Venture Creative

Alumni. This group includes our graduates from the four cross-disciplinary educational programmes, who serve as ambassadors for practitioner-oriented collaborations and provide a platform for the dissemination of practitioner-oriented research projects and results.

- Political and practitioner-oriented lobby and support organisations in our field of research. BDC enjoys frequent exposure to municipal and regionally anchored businesses, entrepreneurship and creativity support systems. We frequently hold presentations of our practitioner-related results, and we utilise these contact points to communicate with companies that are relevant to our research, EU projects, dissemination and teaching. The lobby and support organisations we would like to establish even closer relationships with in the future include Fonden for Entreprenørskab, Young Enterprise, Væksthus Nordjylland, SEA (AAU Innovation), LegoFonden, DR and Confederation of Danish Industry. This area of research collaboration outside our research group serves as an optimal platform for the development of social Influence based on the results and research in our field.

Research and Teaching Coherence

For the BDC group, there is a strong relation between a focus on research and a focus on teaching. We have four programmes: Creative Genius Semester (30 ECTS), New Venture Creation (30 ECTS), Corporate Entrepreneurship (30 ECTS) and Creative Genius for Professionals (30 ECTS) together with ORCA. The strong relation makes sense because we partly created the educational programmes as experimental settings to develop state-of-the-art and experiments related to our research areas.

We strive to assign each PhD student, assistant professor and associate professor to the teaching and supervision tasks that are closely related to their fields of research. We also encourage experiments in teaching, supervision and other study activities to increase the coherence and motivation for teaching. In our four educational programmes, we cover almost all the research sub-areas of the research group. We attempt to cover the remainder of the teaching utilising external researchers or practitioners. Another advantage of this close relation between research areas and teaching obligations is that the educational programmes continuously develop according to the development and understanding of each researcher in their respective fields.

BDC constitutes one of the hubs of entrepreneurship-teaching at Aalborg University, mixing creativity training with opportunity spotting and business model configuration. This is mainly a result from the success and nation-wide publicity of the New Venture Creation and Corporate Entrepreneurship programs, which both have been externality financed by 'Fonden for Entreprenørskab'. Supporting Entrepreneurship at Aalborg University (SEA) has setup an off-site office next to the BDC shared office, where most of their Startup Programs are conducted

Third Mission Activities and Collaboration Outside Research

Because the research strategy of BDC includes third-mission activities as a key goal, we will not comment further on the third-mission activities, such as examples, descriptions and so forth. Instead, third-mission activities shall be seen as a natural part of the research that takes place in BDC, and thereby all projects we undertake automatically

include perspectives of third-mission activities in relation to each impact case. One person from the group is particularly active in the media, which can be seen below.

Table 7.1: Numbers in Danish Broadcast Media

	2012	2013	2014	2015	2016
No. of Press Cuttings in Danish Broadcast Media	129	120	105	69	89
Most cited group member's share of press cuttings in Danish Broadcast Media	0,94	0,99	0,9	0,93	0,99
No. of references in Danish Broadcast Media	438	482	556	274	367
Most cited group member's share of references in Danish Broadcast Media	0,97	1	0,98	0,96	1

Note: Infomedia statistic is based on primary research group affiliation.

7.4 Societal Impact

Since the establishment of the BDC research group, we have had a strong focus on societal impacts. Our impact strategy is two-fold: impact through inventions for and collaboration with practitioners and impact through research publications. We have had a relevant impact on the understanding of creativity as a process with practitioner-oriented methods used by 100.000+ participants internationally (more than 100.000 participants in courses primarily designed based on our methods). We have had a relevant impact on local matching of companies for growth, including assembling 65 business angels/angle investors and 10 investment cases and have created videnkapital.dk as well as related publications. We have had a relevant impact on creating new business models in the telecommunications industry (for Telenor), which has been the foundation for research that has led to publications on industry-

university collaborations and intellectual capital. We have had a relevant impact on exploring, experimenting and analysing how creativity may be enhanced long-term through educational activities in higher education on business innovations. This has led to a new bachelor's degree programme on Creativity and Business Innovations, which today is accredited and runs annually at Vilnius University of Applied Sciences, Estonian Entrepreneurship University of Applied Sciences and Instituto Politecnico do Porto, as well as related publications. We have had relevant impacts on mapping existing business models in the industry and developing and designing new business models for the exploitation of IP related to phantom limb pain for a project called EPIONE.

7.5 Future plans

The vision of BDC is clear, and the goals and ambitions of the group are aligned for the upcoming year.

Vision:

The vision includes different focusses.

Research:

The objective is to be well-reputed as a cross-disciplinary research centre focussing on 'business design' along with business model research, creativity and board governance.

Teaching:

The objective is to develop well-designed and popular modular courses in our field that are taught by different faculties at AAU and other universities.

Collaboration:

Networking is valuable, and as part of our vision,

we strive to be a valuable partner with businesses, fellow researchers and other relevant stakeholders. We encourage collaboration through the Business Model Conference and Journal of Business Models and partner events with industries. Within the group, we aim to create a good work environment and to encourage collaboration between colleges utilising IT and our collaborative workspace.

Mission:

To succeed, we have adopted the following focus for the upcoming year:

- Consolidate the team's focus and align the vision
- Focus projects on core research areas
- Move applications from small projects to large, long-term projects
- Strengthen collaborative efforts
- Structure teaching modules and ensure redundancy in teaching staff

Current and Future actions

- Find new head of research
- Establish new research area in Board Governance.

7.6 Panel Evaluation [to be completed during the visit]

Observations

Recommendations

CRativity E-MODules in Education (CREMO)

An example of the objective to combine research and societal impacts is illustrated through the case of CRativity E-MODules in Education (CREMO). CREMO is an e-module that we developed in collaboration with Complutense Madrid University, University of Malta and Chinese Academy of Sciences. It is focussed on creativity and developing the users' skills, understanding and knowledge in relation to enhancing creativity and training. It is equivalent to 2 ECTS and designed for higher education in Europe. The intention of the project has many goals, including establishing a sustainable and continuously developing research database, a potential entrepreneurial spinoff and creativity competence building.

To establish a sustainable and continuously developing research database, a highly advanced learning software (www.academyforcreativity.com) was developed, which has already been implemented into the curriculum in several higher educational institutions across Europe. We hope to have about 20.000 users by fall 2018. The software is designed in such a way that while the students learn and practice creativity, we can retrieve valuable data for a better understanding of the mechanisms underlying creativity training and the enhancement of creativity as well as the development of novel and unique ideas. The database is already the largest database on creativity training in the world, and it is still growing each day. As our research group leads this project and has both administrative and research responsibilities for the software, we also have control of the data in the database. We intend to invite researchers from across the field to help analyse the data and publish high-value, new insights in research journals. They will eventually affect the way creativity is taught in educational and corporate training programmes, which illustrates one societal impact.

For the potential entrepreneurial spinoff, the software is not only valuable in terms of the database. It also has a certain market value, and we therefore intend to create a university entrepreneurial spinoff for local job and global impacts through this new invention for practitioners in the field of creativity training, which is another example of a societal impact.

Regarding creativity competence building, creativity training is a scarce resource in higher education. In most cases, institutions rely on professors or teachers to have a self-motivated interest in creativity training; however, www.academyforcreativity.com allows any educational programme at any educational institution to integrate creativity training as part of the curriculum. Thus, a larger part of the population will advance their creative skills as well as their knowledge and understanding of creativity, which has a societal impact.

Sources to corroborate the impact for CREMO

- Professor Patricia Nunez Gomez, Head of Department of Communications, Complutense Madrid University
- Professor PhD Sandra Dingli, Institute for the Design and Development of Thinking, University of Malta
- Associate Professor Erik Guzik, Vast Ability Learning Systems
- Professor PhD ChaoYing Tang, Chinese Academy of Sciences

8. The Danish Center for Healthcare Improvements (DCHI)

Executive Summary

The Danish Center for Healthcare Improvements (DCHI) was officially established in 2012 in cooperation between the North Denmark Region and Aalborg University. The purpose was to create an interdisciplinary research environment in health economics and quality improvement and to exercise applied research within the regional healthcare sector.

DCHI is a young research group that has expanded from one person in 2009 to 18 people in 2017. Professor Lars Ehlers is the head of DCHI. Before the official establishment of DCHI, Professor Ehlers was affiliated with The Management, Accounting and Control (MAC) research group. Eleven PhD students in health economics and quality improvement have been affiliated with DCHI since its establishment as part of the process of building up the research group.

Most of DCHI's applied research is carried out in close collaboration with decision-makers and researchers within healthcare and thus has a direct societal impact. DCHI produces a considerable number of scientific publications, 132 publications were published between 2012 and 2016. However, it remains a challenge for the research group to be measured on BFI points, as the BFI points are often shared with many other institutions and co-authors according to the tradition for research publication in healthcare. DCHI has been quite successful in attracting external funding. Between 2012 and

2017, DCHI signed 24 grants which amounted to DKK 23,976,357.

DCHI is responsible for all courses and supervision in health economics and quality improvement in healthcare at Aalborg University, including the development of the curriculum of the Master degree programme in Medical Market Access. DCHI annually provides between 3,000 and 4,000 hours of teaching and supervision in a wide number of courses.

In the future, DCHI expects a moderate growth in staff and annual publication rate. In the forthcoming years, the center will prioritize a shared research agenda on the methods for economic evaluation of complex interventions in healthcare. It is a priority to strengthen our international research profile and acknowledgement with more publications in the highest-ranking peer-reviewed journals within the fields of health economics and quality improvement.

8.1 Research profile

The Danish Center for Healthcare Improvements (DCHI) was established in 2012 in cooperation between the North Denmark Region and Aalborg University with professor Lars Ehlers as head of the research group. The purpose of DCHI was to provide research-based knowledge and proposals for new interventions and improvements in the daily

clinical practice. The mission was to establish a new research environment in close cooperation with the healthcare sector in order to improve the quality and efficiency in healthcare and increase patient safety and economic efficiency (value for money). Furthermore, DCHI supports the sharing of evidence-based knowledge locally and internationally through participation in and organisation of workshops, conferences, and meetings with different stakeholders (researchers, healthcare managers, industries, etc.). Furthermore, written dissemination takes place in the form of peer-reviewed papers, reports, and regular issues of the DCHI newsletter, which is distributed to a wide spectrum of readers

in an open DCHI mailing list. Finally, DCHI supports the initiation of new research-based activities and collaborations, including student activities, student projects, and applications for new research projects.

A major focus for DCHI has been the establishment of the Master degree in Medical Market Access with a special focus on health economics and quality improvement in healthcare.

DCHI has grown from one person in 2009 to 16 in 2017 and is now a well-established research group in charge of all health economic education and research at Aalborg University. From the beginning, the main focus has been on applied health economics with a

Timeline

	Major events	Major projects	Major research focus
2009-2011	<ul style="list-style-type: none"> Professor Lars Ehlers was employed at the department and started the Master programme in Medical Market Access in the summer of 2009. In the summer of 2011, the first two PhD projects were initiated 	N/A	Economic evaluation studies
2012-2016	<ul style="list-style-type: none"> DCHI was founded as a research base for the Master programme in Medical Market Access The first PhD degree was awarded in 2014 	<ul style="list-style-type: none"> TeleCare North Unannounced hospital surveys 	Economic evaluation studies
from 2017	<ul style="list-style-type: none"> Affiliation of two international professors Consolidation of the DCHI with more long-term employments 	<ul style="list-style-type: none"> EQ-5D-5L valuation study Economic evaluation of complex interventions 	Economic evaluation of complex interventions

high societal impact. The key research themes have been health economic evaluation and budget impact analysis of new interventions and technologies in healthcare, evaluation of quality improvement initiatives, and methodological research in tools for economic evaluation. Examples of sub-themes include the economic evaluation of tele-medicine, the implementation of clinical guidelines, and the evaluation of new surgical procedures and devices.

In the forthcoming years, we will prioritize a shared research agenda and will work closely together on improving the methods for the economic evaluation of complex interventions in healthcare. Hence, it was a priority in 2017 to strengthen our international research profile through the employment of two international professors (part-time). Furthermore, we will attempt to increase the methodological level of our research with more publications in the highest-ranking peer-reviewed journals within the fields of health economics and quality improvement.

8.2 Organization, Composition and Financing

Current Staff as of 31 December 2017

Professor

Lars Holger Ehlers

Part-time professors with main employment outside of the department

Kjeld Møller Pedersen

Julie Reed

Cynthia Paola Iglesias Urrutia

Assistant Professors

Louise Hansen

Cathrine Elgaard Jensen (Primo 2018)

Anne Sig Sørensen (Primo 2018)

Enrolled PhD Students

Annette Willemoes Holst-Kristensen

Sabrina Storgaard Sørensen

Research Assistants

Kristine Glavind

Henrik Vitus Bering Laursen

Natasha Lee Sørensen

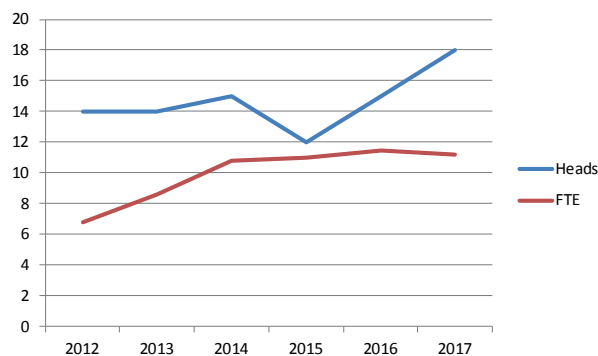
Nanna Kastrup Hermansen

Jesper Møller Rimestad

Staff Development

The head of the research group, Professor Lars Ehlers, holds Master of Economics degree and a PhD degree in health economics from Aarhus University and is responsible for the general strategy of the research group.

Figure 8.1: Research Staff Development 2012-2017, Heads and FTE



The center has employed three part-time senior researchers, one of which is a professor in health economics and a nationally recognized capacity within his field. The other two newly affiliated senior researchers are both from the UK, and their primary research areas are within quality improvement and health economics. The junior researcher group currently counts one assistant professor, but will expand during the first half of 2018 with an additional

three assistant professors/postdocs. All four junior researchers come from a group of eleven PhD students affiliated with DCHI from its very beginning. The PhD students represent a wide range of educational backgrounds, adding to the diversity of DCHI (a Master of Science in Sociology, a Master of Economics, a Master of Medical Science, a Master of Public Health, and a Master of Health Science). At present, one PhD student is affiliated with the center. Currently, eight research assistants are employed at DCHI, of whom two or three are expected to enroll as PhD students during 2018. Previously, it has been difficult to recruit senior researchers within health economics and quality improvement, which is the reason for the imbalanced staff organization. However, this is no longer considered a problem with the employment of four assistant professors/postdocs during 2017 and 2018 and the employment of the two new affiliated senior researchers. In addition to its scientific staff, DCHI also employs two part-time research secretaries.

Educational diversity in the research group has always been the ambition of DCHI. However, the unique nature of the research fields of health economics and quality improvement has limited the availability of appropriate candidates. Due to this, most of the employed junior scientific researchers and previous PhD students were recruited from the Master degree programme in Medical Market Access at Aalborg University. In the future, our ambition is to have at least one third of PhD students with another educational background than Medical Market Access.

It has also been an ambition of DCHI to ensure strong international collaboration with other universities working within the fields of health economics and quality improvement. This has been established by ensuring that PhD students have the opportunity

to go abroad during their enrollment. International collaboration has previously been initiated with Sheffield University, York University, and Garvan Institute of Medical Research. Ensuring a strong international research profile remains the focus of DCHI, and two professors from York University and Imperial College London, respectively, have recently been employed on a part-time basis. DCHI will continue to establish international collaboration, and the employment of the two international senior researchers will facilitate this ambition.

Furthermore, DCHI has recently initiated a high-profile research project in collaboration with the EuroQol Group, which is the leading international research group focused on how to describe and value health-related quality of life. The output of the collaboration is expected to result in an instrument which can be used in health economics evaluation and, in the future, enable the prioritization of scarce healthcare resources in Denmark.

8.3 Strategies, Activities, Output and Academic Impact

DCHI was founded through cross-sectional cooperation between the North Denmark Region and Aalborg University. The primary aim was to provide research-based knowledge and, more concretely, provide suggestions for improvements to the clinical practice, which may help accommodate the different types of challenges the healthcare system is facing. Multiple nationally renowned researchers in health economics and quality improvements were involved with establishing DCHI and the purpose of the research center.

In the period 2012-2016, a main focus for DCHI was to establish the identity and capabilities of

the research group within the areas of health economics and quality improvement. In the start-up phase, the research group grew considerably in size (cf. the previous section), particularly due to the initiation of several new PhD projects. As part of the PhD projects, a strong focus was on establishing extensive, external cooperation with public institutions and private companies, which in turn has affected the foci of the projects. DCHI has valued the cooperation on real-life problems and the possibility to apply an academic, yet application-oriented approach to solving healthcare-related problems in practice. The cooperation has initiated an iterative process in which methodological issues have been identified and processed. This has spurred the foci for the research strategy for the years to come.

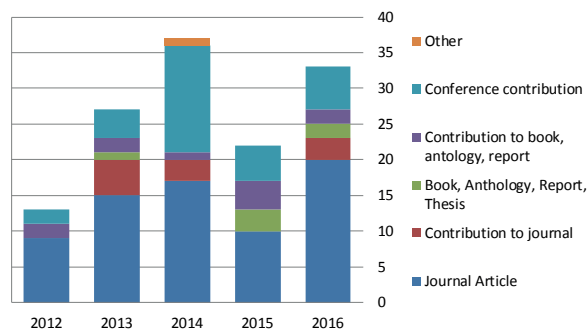
Following the start-up phase, DCHI has consolidated itself as an academic research institution. In the period 2017-2021, DCHI will focus its research efforts on projects within the area of the health economic evaluation of complex interventions in healthcare, and particularly the methodological issues that concern this topic. Cooperation with internationally renowned experts will bolster these efforts. As part of the strategy, greater attention is devoted to contributing to the development of different methodological approaches to the health economic evaluation of complex interventions with specific attention to quality improvements. Consequently, greater coherence between this research agenda and the clinical problems that potential external projects represent will be prioritized. Irrespective of this, projects of high clinical relevance and potential societal impact will still be conducted under the auspices of DCHI.

Publication

The accumulated number of publications since the conception of DCHI and until the end of 2017 is shown in Figure 8.2; DCHI has an H-index of 10, according to SciVal. In the period 2012-2016 61 publications were registered in Scopus. These publications received 362 citations, which amounts to an average of 5.9 citations per publication.

DCHI has primarily published papers in scientific peer-reviewed international journals. Moreover, DCHI has participated in and contributed with abstracts for conferences within both health and social sciences. During the period from 2014 until 2017, eight PhD students submitted their academic dissertations, and seven have received their degrees.

Figure 8.2: No. of Publications Split on Publication Categories



As regards future publications, DCHI will strive to increase the number of publications in peer-reviewed international journals and the total number of publications. Furthermore, it is the ambition to produce more high-quality publications, as this will both increase the quality and impact of our research. This will be done primarily in relation to our future research theme on methods for the economic evaluation of complex interventions in healthcare.

Generally, being measured on BFI points is a

challenge for the group, as we often share authorship with other institutions and departments because of our cross-disciplinary traditions (Figure 8.3 and Figure 8.4), and approximately 70 % of our papers registered in Scopus are published within the field of Medicine.

Figure 8.3: Proportion of publications with external co-authors

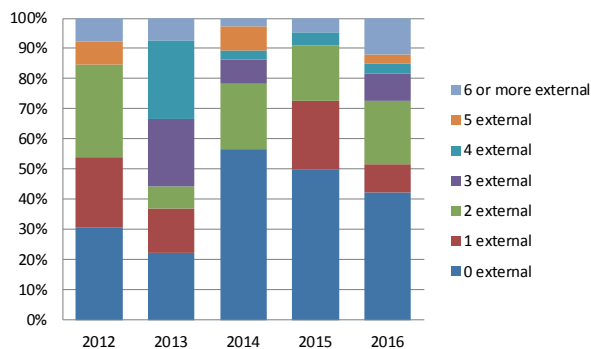
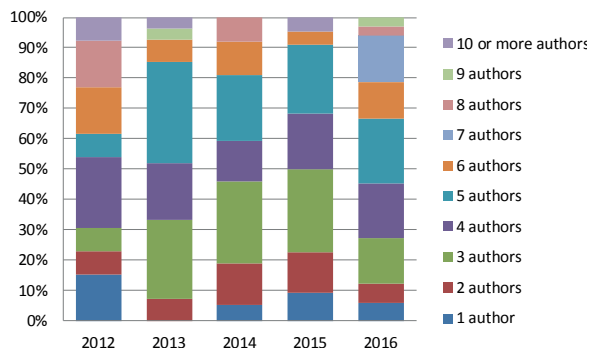


Figure 8.4: Number of authors on proportions of publications



This entails that the BFI points are divided between the institutions. In the future, DCHI will strive to increase the number of methodological papers for publication in journals within social and medical sciences. Furthermore, it is an ambition for the

research group to conduct more research together, thus sharing authorship within the group. These efforts are expected to increase the number of BFI points awarded to DCHI.

Research Training (PhD)

All PhD students are granted an initial period before enrollment to secure good quality and ownership of their future PhD projects. This also enables the research group and the individual PhD student to become familiar with each other both academically and socially and ensures the coherence of academic skills across the research group. Furthermore, the research group encourages all PhD students to participate in certain basic PhD courses within related fields of health economics at leading international universities. Additionally, an individual PhD course schedule is drawn up and discussed between the supervisor and the PhD student as well as in the research group. At DCHI, a journal club has been established in which both senior and junior scientific researchers are encouraged to participate. In the journal club, manuscripts under preparation by PhD students are discussed to improve the quality of the manuscript before submission and promote transparency of the conducted research. Moreover, methodological papers within the fields of health economics and quality improvement are discussed to heighten the academic level across the research group.

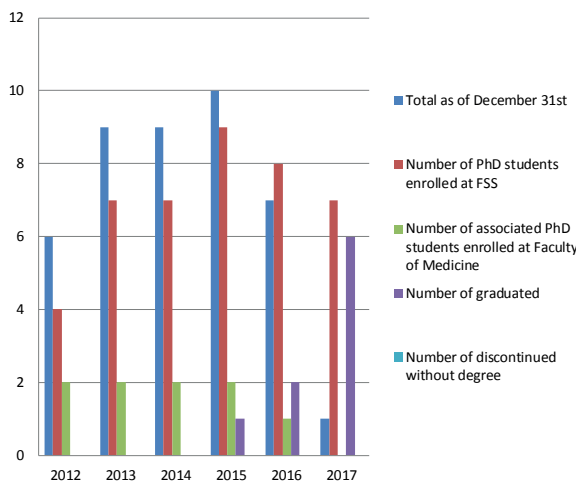
DCHI considers it important that PhD students are enrolled in smaller groups to facilitate a good environment while the academic research skills mature. This also includes an open-door policy where junior and senior scientific researchers are encouraged to discuss and disseminate knowledge on a daily basis. Furthermore, the research group encourages PhD students to develop their teaching

and supervision skills of master students. This applies throughout the PhD enrollment and should take place in close collaboration with a senior scientific researcher.

In the near future the research group is planning to develop one or more PhD courses within our areas of research. We have not settled on the areas yet, but they will revolve around the execution and application of economic evaluations.

Until now, the majority of PhD students enrolled at DCHI have been recruited from the Master degree programme in Medical Market Access at Aalborg University. A small number of former PhD students had another academic background. Throughout the history of our research group, we have tried and are still trying to increase the diversity of the group, but are limited by the number of master programmes related to our field of research. Furthermore, the research group is aiming to improve our national and international collaboration with senior and junior scientific researchers. This has currently resulted in affiliated PhD students at Aarhus University and Imperial College London.

Figure 8.5: PhD Enrolment (2012-2017)



After finishing their PhD at the research group, most of the graduates have been employed at our own department or in other academic institutions, which has consolidate DCHI as a research institution with appropriate academic skills. However, one third of graduated PhDs have also found employment in both the public and private sectors.

All previous and current PhD students affiliated with the research group have primarily been financed by private and public funds. This has been and still remains the strategy of DCHI, because our research is focused on applied science and is in the interest of many collaborative partners.

Figure 8.5 illustrates the total number of PhD students at DCHI with enrollments at the Faculty of Social Sciences and at the Faculty of Medicine.

For a period between 2016 and 2017 no new PhD students were enrolled. The primary reason is that most of the enrolled PhD students were in the final stages of their PhD courses which have put pressure on DCHI. However, we are planning to enroll a number of new PhD students in 2018 and 2019.

External Funding

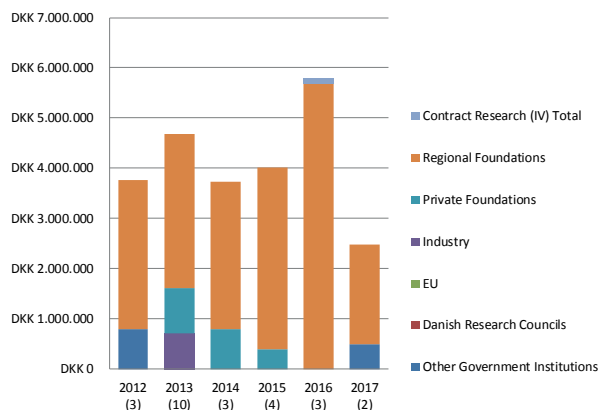
External funding from the North Denmark Region made it possible to establish DCHI at Aalborg University. Furthermore, it has been important to acquire external funding from local and national foundations to initiate research projects and enroll PhD students. There are two main reasons for the high success rate in the application for external funding. Firstly, the research projects were application-oriented and thus included a clear societal impact. Secondly, the projects applied for addressed the growing debate in Denmark regarding the prioritization of scarce resources within

the healthcare system. For this reason, DCHI does not consider raising additional external funding in the future to be a problem, despite our current dependence on funding from the North Denmark Region.

Looking to the future, it is still the ambition of DCHI to acquire external funding from both national and international foundations. It will remain the focus of DCHI to receive funding for individual PhD projects. Likewise, it is the ambition of DCHI to apply for a major grant from an external foundation to enable the large-scale research project in economic evaluation of complex interventions in healthcare. A major grant would make it possible to enroll PhD students with a keen focus on methodological research, which will have no immediate societal impact. This methodological research will strengthen DCHI's international research profile.

The portfolio of the research projects at DCHI have previously, and going forward, been formulated by the research group.

Figure 8.6: New Grants in DKK and Sources 2012-2017



Research Collaboration Outside the Research Group

Public health institutions and providers such as national agencies, university hospitals, the five Danish regions, and Danish municipalities are very important collaborators because of our former and future research foci. Furthermore, we have strong collaboration with both national and international universities and research organizations. As one of the goals of DCHI is to produce research with a societal impact, strong and influential collaborators are needed for the sake of data gathering as well as later successful dissemination.

It is an important part of the future strategy of DCHI to continue our collaboration with well-established partners from leading international universities, and it is also essential to establish new international and national collaboration.

Cross-disciplinary research is the backbone of DCHI. Health economics is by definition a cross-disciplinary research field. Thus, it is more relevant to collaborate with research groups outside of the Department, as most of our research revolves around health and the organization of the healthcare sector.

Research and Teaching Coherence

At DCHI strong coherence exists between the research agenda and the courses taught. The research group is primarily responsible for courses in health economics and quality improvement in healthcare at Aalborg University. The courses are primarily taught at the Master degree programmes in Medical Market Access, Public Health Science, and Public Governance. Further, introductory courses are taught in the Bachelor degree programme in

Medicine with Industrial Specialization. Moreover, DCHI is responsible for teaching individual sessions in health economics in other degree programmes at Aalborg University. Annually, DCHI provides 3,000 – 4,000 hours of teaching and supervision.

The main focus of the research group is that the teaching of all courses related to health economics and quality improvement in healthcare continues to be the responsibility of DCHI. This ensures the high quality of the courses, as all researchers with competencies within health economics and quality improvement work closely together in relation to their teaching and supervision obligations. Furthermore, experience from other Danish universities shows that once a health economic research environment is divided between different research groups, it becomes difficult to sustain this environment. Therefore, it is strategically important to retain our competencies within one research group.

Third Mission Activities and Collaboration Outside Research

A main priority for DCHI is the improvement of healthcare and healthcare services. Thus, a main focus in the strategy of DCHI is that the research we initiate should be application-oriented. Consequently, a large part of our research takes its starting point in real-life problems, on which external collaborators present and seek information. Our external collaborators are continuously involved in the research process, which increases their sense of ownership of the projects and results. This also increases the relevance of the results in relation to decision-making, which is likely to facilitate easier incorporation of the generated knowledge in future decision making. The projects that DCHI is involved in are always of scientific interest and in agreement

with the research strategy of the research group.

Continuous knowledge dissemination forms part of our different research projects with external collaborators. In particular, substantial knowledge transfer and sharing has taken place between the members of the research group and interested parties, e.g. collaborators and others who are facing the same challenges in relation to PhD projects. In addition, DCHI is represented on several advisory boards and in steering committees, and participates in research groups that work with the evaluation and use of real-life data. Consequently, DCHI exercises influence on decisions which are made on behalf of and for the benefit of the general public. Furthermore, DCHI is in continuous contact with decision-makers in public organizations and thereby inform their decisions.

DCHI has an established procedure of publishing a newsletter three times a year which includes information on the research findings of DCHI and our collaborators, student projects of particular interest, and comments on topics of public interest. The newsletter is distributed upon request to a large group of recipients within the public and private sectors. In addition, DCHI has a LinkedIn profile, which is used for the dissemination of the research results and research activities of DCHI.

8.4 Societal Impact

As we are an interdisciplinary, applied science research group, the societal impact of our research is substantial. All projects investigated by DCHI study current issues within healthcare that contribute to decision-making. The societal impact of research conducted by DCHI could in principle be measured by observing changes in costs in healthcare institutions. Due to the complexity of assessing the

Participation in the development of national guidelines for economic evaluations

The costs related to the introduction of medical technology continue to rise and place healthcare systems worldwide under substantial pressure. The Danish Regions have long requested tools to contain the expenses related to investment in new medical technology (i.e. medication), and in response to this request, the Danish Medical Council was founded in 2017. The purpose of the Danish Medical Council is to evaluate both the expected costs and effects of medications and, consequently, evaluate the 'value for money' of new interventions.

Applications to the Danish Medical Council should include economic evaluation which may be used to provide information on the cost-effectiveness of the new medication. This economic evaluation may form the basis for and potential 'leverage' in negotiations on the introduction of new pharmaceuticals in Denmark. In relation to this, new national guidelines on the conduction of economic evaluations of new medical technology were developed by DCHI and others.

In cooperation with other academic environments, The Danish Medicines Agency appointed a committee responsible for composing national guidelines for economic evaluations that should be in agreement with the requirements from the Danish Medical Council. DCHI was asked to participate and contribute with its academic knowledge, for instance through the membership of professor Lars Holger Ehlers in the committee. As a part of the drafting of the national guidelines, the accumulated knowledge within the field of economic evaluation of the entire research group was applied. Consequently, the knowledge and understanding of the field of economic evaluation of DCHI contributed to the development of the new national guidelines, and thus permeate the guidelines.

The guidelines are intended to support the work of pharmaceutical companies when conducting economic evaluations in relation to applications forwarded to the Danish Medical Council. Furthermore, they ensure academic soundness of the analyses and consistency between the economic evaluations submitted to the Danish Medical Council, which subsequently eases the evaluation process. This may ensure improvements in informed decision-making, which consequently may lead to more consistent decision-making.

Consequently, greater value for money is ensured through investments in medication that is considered to provide sufficient value compared to the costs. This may ultimately benefit patients and the society as a whole, as it may ensure the efficient use of resources in the public healthcare system. Thus, the academic knowledge in DCHI is transferred into public decision-making and the underlying approaches to economic evaluation through the development of national guidelines.

The Danish Medical Council was formed in January 2017, and the first final applications in which an economic evaluation was conducted in accordance with the new guidelines were received in May 2017.

*The draft of the national guidelines on economic evaluation is available on request.

health-related quality of life after the implementation of an intervention, the observed effect on societal impact is difficult to measure.

The societal impact is not merely a reflection of the research conducted directly by DCHI, but also indirectly by the student projects supervised by DCHI.

8.5 Future Plans

In the years to come, we will prioritize a shared research agenda, according to which we will work closely together on improving the methods for economic evaluation of complex interventions in the healthcare system. Cooperation with internationally renowned experts will bolster these efforts. As part of the strategy, greater attention will be devoted to contributing to the development of different methodological approaches to the health economic evaluation of complex interventions with a specific focus on quality improvements. Consequently, greater coherence between this research agenda and the clinical problems that potential external projects represent will be prioritized. Furthermore, we will attempt to increase the methodological level of our research, with more publications in the highest-ranking peer-reviewed journals within the fields of health economics and quality improvement. In the next few years, DCHI is planning to enrol two or three new PhD students; these will mainly be recruited from the research assistants employed at DCHI.

8.6 Panel Evaluation [to be completed during the visit]

Observations

Recommendations



9. Macroeconomic Methodology, Theory and Economic Policy (MaMTEP)

Executive Summary

The MaMTEP research group was formed as a new research group at the Department in 2011. Today the group has eight members: six fulltime-employed academics and two part-time professors. As a relatively young research group, we have to grow in numbers in the years to come to gain 'a critical mass'. We therefore see ourselves as a research group that is still in its early phase: There is still much work to do in the next five years to consolidate the research group. Therefore, it is our hope that in the next five years we will be able to attract more PhD students (modelling: finance and SFC) and have open positions for an assistant and two associate professors to be added to our existing staff group.

As we started from scratch in 2011, our first informal 'strategy' was to initiate anew some macroeconomic re-search activities at the Department. Because of this, we started out with a very broad definition of research activities that were relevant as research projects for group members. In 2016, we narrowed down our research focus substantially. Now our research strategy for the years to come is primarily focused on various aspects of Post Keynesian economics, financial economics, the Stock-Flow Consistent (SFC) modelling approach and economic methodology. Presently, our SFC and financial economic research are especially concerned with addressing the problems of private debt, financial instability, the banking crisis and other aspects of modern monetary policy. In this

respect, we would like in the future to establish ourselves as a recognized economic centre involved in macroeconomic and financial modelling with a specialization in SFC research. Likewise, we are planning to establish a new Aalborg Centre for Economic Methodology (ACEM).

Concerning publication, MaMTEP had 93 registered publications in the period 2012 to 2016. We are aiming to continue to publish papers, articles in both national and international refereed journals and books, thus making an impact as a well-known and recognized research team. Our record of accomplishments so far indicates that in general MaMTEP seems to have been able to gain an increasing number of BFI points each year. It is our aim for the next five years to maintain this level of activity and, if possible, expand it further.

So far, all our job positions have been fully financed by the Department. Although we operate as a heterodox macroeconomic research group, we have been able to acquire some external funding. Thus, both the Third and the Fourth Nordic Post Keynesian Conferences held in 2014 and 2017 were fully externally funded. Therefore, in the years to come it is our aim to build a record of accomplishments with such an impact that we might be able to acquire more funding from external private sources. If we are successful, this should enable us to organize international workshops (in the fields of modelling and methodology) and conferences; this may enable us

to create new job positions, which will increase our visibility as a research group in both a Danish and an international con-text.

As a research group, we are tightly connected to the degree programme in economics. Therefore, group mem-bers are the primary actors in the teaching and supervising of BA and MA students in economics. However, mem-bers of our group also teach economics courses in other programmes within the Faculty of Social Sciences as well as at other faculties. For this reason, and since our teaching activities are to a large extent research based, a great deal of accordance is found between the research and teaching activities of group members.

9.1 Research profile

During the past five years, members of the research group have published various books, articles and papers within the subject fields of macroeconomic methodology, macroeconomic theory and macroeconomic policy, as indicated by our name MaMTEP, mainly within the framework of the Post Keynesian economic understanding. This means that our research group provides an alternative to the modern macroeconomic mainstream thinking – The New Neoclassical Synthesis and the DSGE modelling approach. Being heterodox, we are better able to ‘cope with reality’ in that we can address the

important problems highlighted by the recent Great Recession such as financial matters, uncertainty and instability, which are not often addressed by mainstreamers.

Being a relatively new research group, as indicated in the timeline below, our first research perspective was rather broad: The few new members committed themselves to conducting research concerning various aspects of macroeconomics, with the intention to include problems of a methodological, theoretical as well as of an economic policy nature.

However, as the research group grew in numbers to six fulltime-employed academics – one professor, two associate professors, two assistant professors and one PhD-student¹ –we decided in 2016 to narrow down our research focus in order to strengthen our research impact. This means that we are now focusing mainly on matters of modelling, especially within the tradition of the SFC approach, and on methodology. Because of this, much effort has gone into building up networks, especially within the SFC community, which were successfully initiated as a follow-up of the Fourth Nordic Post Keynesian Conference: Economics at the Edge, held in Aalborg

¹Furthermore, Jesper Jespersen and Peter Skott are associated MaMTEP as part-time professors (both from 2012).

in April 2017². In the years to come, our aim is to place Aalborg University on the international map as a recognized economic centre of SFC research. Another aim is to establish a research centre for economic methodology.

Presently, the members of our macroeconomic group are involved in a number of research projects as indicated below; they will continue this involvement in the years to come. The listing below therefore covers both research themes and papers in progress. Furthermore, many of these projects

²From the very beginning, an important aspect of our strategy has been to make ourselves visible to the world outside of Aalborg University, in Denmark as well as internationally, by hosting an international conference in Aalborg every three years. In May 2014 the Third Nordic Post Keynesian Conference was therefore held in Aabybro. As an outcome of this conference, Routledge published a volume of selected papers in 2016 under the title *Macroeconomics after the Financial crisis: A Post-Keynesian Perspective*. Recently, Edward Elgar accepted to publish a new conference volume based on selected papers from our conference held in April 2017.

involve using the SFC approach.

MaMTEP's present research projects:

Addressing Methodological, theoretical and historical issues in modern macroeconomics

Methodological underpinnings of economics

- Macroeconomics and ontology – some methodological aspects
- Methodology of Economics
- The Lucas critique and Post Keynesianism
- Time in Keynesian Economics
- The principle of effective demand as a macroeconomic model

Historical reviews in a modern context

- The economics of Paul Davidson
- Ivar Nørgaard, the economist

Timeline

	Main Activities	Main Research Focus
2011	<ul style="list-style-type: none"> • MaMTEP founded as a new research group at the De-partment • Given the role as prime actor in supporting the educations of economists 	<p>Research focus (rather broad): Macroeconomic methodological, theoretical and economic policy aspects</p> <p>Annual Keynes Lectures initiated, inviting internationally known scholars to Aalborg</p>
2012	<ul style="list-style-type: none"> • First PhD project within the tradition of SFC modelling 	
2014	<ul style="list-style-type: none"> • The Third Nordic Post Keynesian Conference held in Aabybro and organized by MaMTEP 	
2016	<ul style="list-style-type: none"> • Second PhD project within the tradition of SFC modelling 	<p>Research focus (narrowed down): macroeconomic and financial modelling primarily within the tradition of SFC modelling and economic methodology</p>
2017	<ul style="list-style-type: none"> • The Fourth Nordic Post Keynesian Conference – <i>Economics at the Edge</i> – held in Aalborg and organized by MaMTEP 	

Theoretical inquiry

- Foundations of Money

Teaching of economics

- Using the PBL approach in teaching economics

Financial, housing and commodity markets

Housing sentiment

Commodity prices

House prices and international markets: forecasting, fundamentals, and housing sentiment

The yield curve and the macro economy

Instability and crisis

Capital inflows, crises and recovery

Stagnation in Denmark

Shadow banking: Securitization

Unconventional monetary policy

UK financial markets: Quantile dependence between asset markets

The Economic Crisis of the EMU: Macroeconomic imbalances in the EU

SFC models:

- SFC-model for Iceland
- Analysis of household debt in Denmark using the SFC modelling approach

Towards an Empirical SFC Macroeconomic Model for Denmark

The Methodology of the PK-SFC approach

Sector balance sheet expansions in Denmark

A decomposed covariance analysis of macroeconomic sector interactions in Denmark

Macroeconomic effects of unemployment benefits: A Panel VAR approach

SFC Models:

- Macroeconomic effects of unemployment benefits in small open economies: A Stock-Flow-Consistent approach
- The agricultural sector in a SFC-approach
- Aalborg macroeconomic model (AMM)

9.2 Organization, Composition and Financing

Current Research Staff as of 31 December 2017

Professor

Finn Olesen (Research Group Leader)

Associate Professors

Lasse Bork

Mogens Ove Madsen

Assistant Professors

Mikael Randrup Byrialsen

Hamid Raza

PhD Student

Robert Ayreton Bailey Smith

Part-time Professors with main employment outside of the Department

Peter Skott

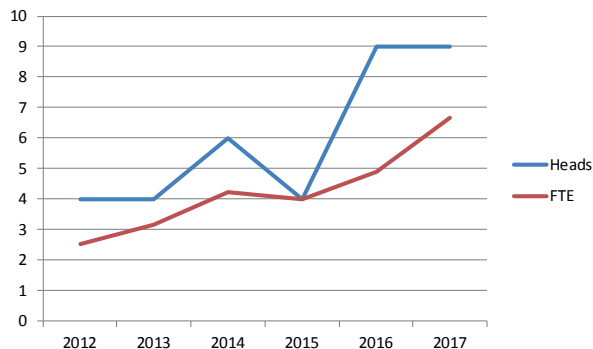
Jesper Jespersen

Staff Development

As already mentioned, MaMTEP has eight members: six fulltime-employed academics and two part-time professors. So far, members of the research group have been actively involved in discussing each other's work on a regular basis, and members often write papers and articles together. In addition, members of our group are also conducting research with colleges outside of Aalborg University. As a rather young research

group with only relatively few members, we have been able to create a warm, positive and inspiring research environment. Moreover, as teachers and supervisors, we all teach various courses at our BA and MA programmes in Economics. This has also contributed to strengthening our cohesive force as a group. In general, MaMTEP should be seen as a rather successful unity with active researchers who also deliver a large amount of teaching and supervision activities in our BA and MA programmes in Economics³. Primarily but not exclusively, we teach courses in other programmes, both within our own faculty and at other faculties. In other words, we teach a large number of different courses in economics which are all, to a significant degree, based on the research programme.

Figure 9.1: Research Staff Development 2012-2017, Heads and FTE



Because of the way in which we have organized our research as a group, the role of the research group leader is that of a facilitator (for the group as a unit as well as for individual members) rather than that of ‘a leader’ in the conventional sense of the term.

³Recently, in 2016, members of MaMTEP were involved as prime actors in revising our BA in Economics substantially. Later this year, our MA in Economics is also going to be revised involving members of our research group to take the initiative to do so.

As indicated in previously, in the years to come, MaMTEP might more explicitly than in the past form sub-groups: one group working with modelling primarily within the modelling tradition of the SFC approach (which has actually already happened as of the autumn of 2016), and one group working on research projects of a methodological nature. Both groups are involved in international networks⁴.

The group members are all males, divided into two groups: ‘the younger members’ (presently a group of four fulltime academics; one associate professor, two assistant professors and one PhD student and a part-time professor working on modelling) and ‘the older members’; (one professor, one associate professor and a part-time professor). As regards nationality, most of us are Danes; two members come from South Africa and Pakistan, respectively.

As a relatively young research group with presently only a limited number of members, we need to grow in numbers to gain ‘a critical mass’ of at least ten members. Our staff position in finance is especially critical, as the field is presently covered by only one associate professor. As our options of funding until now have been to rely on full funding from the Department, our option seems limited to grow slowly; this is because many research groups are battling for more funding and more job positions from the Department. However, our strategy in the years to come is to build a record of accomplishments with such an impact that we might be able to acquire external private funding. If we are successful, this might contribute to making new job positions possible.

⁴At present, we participate in six different types of networks.

9.3 Strategies, Activities, Output and Academic Impact

As already described above, MaMTEP was formed in 2011. As we started almost from scratch, our first informal 'strategy' was to initiate anew some macroeconomic research activities at the Department; as MaMTEP was given the role of the prime actor in supporting the Department's programmes in economics. Because of this, we started out with a very broad definition of the research activities that were to be considered relevant research topics for group members. Our only demarcation criterion was that research projects should address various relevant aspects of methodology, theory and economic policy; the relevance was defined primarily from a heterodox Post Keynesian perspective.

The focus of the group was defined on three dimensions:

1. initiating some research activities
2. attracting new members so that the group might grow in numbers (see Figure 9.1)
3. delivering support for the BA and MA programmes in economics (facilitating the students by teaching various courses and giving supervision to the many projects that students in economics have to write at Aalborg University in macroeconomics, finance and econometrics).

In 2016, we narrowed down our research focus substantially. Our new research strategy for the next five years is to focus primarily on two themes: i) modelling, especially within the tradition of the SFC approach; and ii) methodology. Currently, many of our research activities focus on problems of private debt, financial instability, the banking crisis and various other aspects of modern monetary policy.

In this respect, we would like to establish ourselves as a recognized economic centre of SFC research. In fact, the modelling group has already established itself as an active research group, in a Danish, Nordic and European perspective. This means that the group is involved in various networks and research activities with researchers outside of Aalborg University. Furthermore, we are one of only a few economics departments in Europe capable of teaching a dedicated SFC modelling course. Therefore, the SFC modelling approach might prove to be quite an asset for us, as this approach seems to be gaining more interest among the macroeconomic mainstream within Central Banks.

It is also our hope to be able to establish a new Aalborg Centre for Economic Methodology (ACEM)⁵.

However, as a relatively young research group, we have to grow in numbers in the years to come in order to gain 'a critical mass'. We are particularly vulnerable in the field of finance, as only one associate professor has this field as one of his core research and teaching activities. This means that, much work still needs to be done in the next five years in an effort to consolidate the research group.

Publication

Regarding publication, our aim is to continue to publish papers, articles in refereed journals and be able on occasion to publish books with recognized international publishers such as Routledge and Edward Elgar. For the next five years, we intend to continue to publish at our present level and if possible enhance our publishing activities further.

⁵Our definition is that "ACEM's core activities include knowledge collection and documentation of results in economic methodology. Besides, we intend to coordinate and support joint research in economic methodology and related fields. Furthermore, our idea is to publish working papers and articles in relevant journals".

Our record of accomplishments so far is given in the figures below.

Figure 9.2: No. of Publications Split on Publication Categories

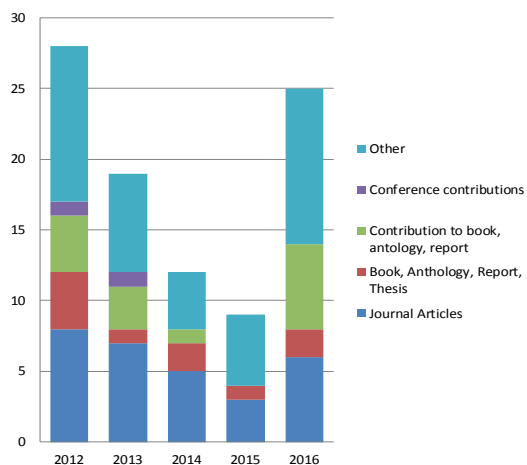
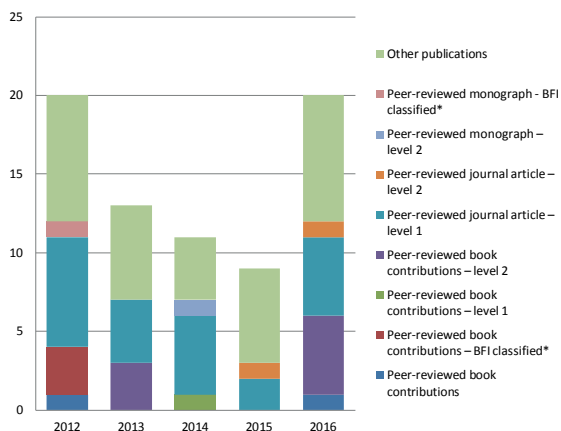
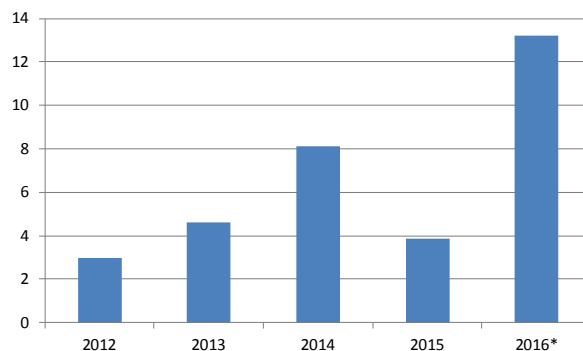


Figure 9.3: No. of publications split on BFI categories



*In 2012, book contributions were not divided into levels 1 and 2

Figure 9.4: BFI-point 2012-2016



*Preliminary figures

As indicated above, in general, MaMTEP has gained a satisfactory number of BFI points. As already mentioned, our aim for the next five years is to maintain this level of activity and if possible further expand it. By doing so, we might gain a greater academic impact over the years to come, as our publication activities, participation in and organizing of conferences together with more networking will cause our group to become known to other research groups in macroeconomics in Denmark as well as abroad⁶.

Research Training (PhD)

As a relatively young research group with only a limited number of members, until now we have only had two PhD-students. One PhD student, with a degree in economics from Aalborg University, enrolled in 2012; He received his PhD degree in 2015 and now holds a position as an assistant professor.

⁶From 2011 and onwards we have arranged yearly guest lectures (Keynes Lectures), inviting internationally known scholars to come to Aalborg University to present various Post Keynesian topics. Among others, the list includes Peter Skott, Sheila Dow, Malcolm Saywer and Arne Heise.

The second PhD student, who has a degree from South Africa, enrolled in 2016. The Department has financed both positions.

In the years to come, we hope to be able to get a PhD position in the field of finance. However, our experience so far tells us that the recruitment problems might be large. Furthermore, it is our strategy to have an open position ready for an assistant professor when our present PhD student acquires his degree, and to have two open positions as associate professors ready when our two present assistant professors have gained the qualifications required to hold such positions.

External Funding

As we operate as a heterodox macroeconomic research group, we acknowledge the fact that we might have problems attracting external research funding on a large scale from Danish research councils. However, our strategy for the years to come is to build up a record of accomplishments with such an impact that even if we are heterodox, we might be able to acquire a certain amount of external funding from private foundations. If successful in this, such funding will be spent on future international workshops (in the field of modelling and methodology) and conferences (we would like to organize a Fifth Nordic Post Keynesian Conference in 2020). The funding may also result in new job positions and contribute to increasing our visibility as an established research group in a Danish as well as in an international context.

So far, we have received full external funding of the Third and Fourth Nordic Post Keynesian Conferences in 2014 (DKK 110,000.) and in 2017 (DKK 152,500 – nationally as well as internationally financed). Furthermore, in 2016, we received DKK

87,500 kr. from the Obel Family Foundation (towards the acquisition of research data).

Research Collaboration Outside the Research Group

For us as a heterodox research group, it is important to participate in international network activities with other groups and to work with colleges outside of Aalborg University. Therefore, as already mentioned, until now we have been trying to build up network activities with research groups abroad, participating in workshops and conferences. Furthermore, we have been trying to establish a tradition of giving yearly Keynes Lectures, inviting internationally known scholars to come to Aalborg University to give guest lectures on Post Keynesian topics. Likewise, we would like to continue our practice of organizing an international Nordic Post Keynesian conference every three years, as we did in 2014 and 2017.

In the years to come, our intention is to enhance these efforts, especially concerning modelling (SFC and finance) and methodology.

Today, we participate in six networks:

1. Post-Keynesian Economics Study Group
2. Scottish Centre for Economic Methodology (SCEME)
3. Young Scholars Initiative – Institute for New Economic Thinking (YSI)
4. Nordisk teorihistorisk netværk (NORDOM)
5. Netværk for økonomisk politisk debat (NETØK)
6. Dansk økonometrisk selskab

Members have given a number of presentations at various conferences and meetings (among others at the Bank of England and Danmarks Nationalbank, and at conferences in New York, Paris, Vienna, Copenhagen, Lugano, Namur, Thessaloniki, Berlin and Edinburgh).

Research and Teaching Coherence

As mentioned earlier, the MaMTEP research group was formed in 2011, with the joint aim of supporting the BA and MA programmes in economics by facilitating the students by teaching various courses and giving supervision to the many projects that students in economics have to write at Aalborg University in macroeconomics, finance and econometrics. The planning of teaching and supervision at the BA and MA programmes in economics is conducted in such a way that it is trying to permit members of the group to teach and supervise primarily within the fields of their core research competences (as is the case for courses that members teach in other programmes than economics). Likewise, research projects undertaken by members have provided input for both fundamental revisions of compulsory courses as well as new elective courses. The teaching of economics at both BA and MA levels at our own department, and at other courses in economics in other programmes at Aalborg University, is truly based on research as regards its character and content. Finally, in Aalborg we teach economics using a Problem-Based Learning approach, which to a large extent implies following a methodology of critical realism. This research topic is also covered by the research activities conducted by some members of the group.

Third Mission Activities and Collaboration Outside Research

In the past years, members of our group have given a number of presentations to various groups in society: High School classes, various associations, the Folkeuniversitet etc. Members have also participated in public debates of many types, including writings in newspapers and appearances

on radio and television. It is our intention to continue these activities in the years to come.

Furthermore, we have given a large amount of attention to website and social media activities. On our AAU website⁷, we are trying to inform colleagues as well as the public about research, publications, conferences and other types of relevant activities undertaken by members of the group. We also give information about the BA and MA programmes in economics on Facebook, including highlighting the merits of MaMTEP as prime actors in the training of economists.

Finally, as academics at a university, members also participate in many different activities; for instance as external examiners at other universities, as reviewers for journals, research councils etc. and as members of various committees.

9.4 Societal Impact

In general, it should be acknowledged that measuring effectively the impact on society of a social science such as economics is actually quite difficult. However, as a heterodox research group in macroeconomics, we are trying to impact society in many ways. Besides making an impact through the training of economists, which seems to be most needed by society as there is really no unemployment among economists educated at Aalborg University, we are trying to participate as much as possible in public debates; we also give presentations to various groups in order to present a different view on macroeconomics than that normally given by mainstreamers. We are trying, at least to some degree, to connect to both politicians and public servants, discussing many types of

⁷For more information see the link: <http://www2.business.aau.dk/research/mamtep/>

Stock Flow Consistent macro modelling heterodox economic theory

Introduction to the research group and the current case

The MaMTEP research programme is undertaken by a newly formed group of macroeconomists. In 2010, the macroeconomics research group was restructured, with a goal of supplementing and at times presenting an alternative approach to the prevailing mainstream. This was both in response to the global financial crisis, and due to the lack of attention paid to financial dynamics in established macroeconomic models – the shortcomings of which have been acknowledged by many prominent economists, including the IMF.

Our primary modelling focus is on post-Keynesian stock-flow consistent models, and the Aalborg macroeconomic department is one of only a handful of economics departments in Europe that are able to teach SFC modelling. This is primarily because there is now an established post-Keynesian SFC (PK-SFC) research programme at the University, but also due to the theoretical pluralism encouraged within our department.

As mentioned above, a major element of the new approach was to develop macroeconomic stock-flow consistent models inspired by post-Keynesian theory. From the recent financial turmoil, it is now obvious that a modelling framework that realises the role of credit in the system is far better than the one that treats it as 'given'. Similarly, models that link the real sector and the financial sector in the economy are more realistic than those which model them separately. The SFC approach offers a coherent framework by integrating all stocks and flows in an economy, thus making it possible to understand the real and financial sector interactions in the economy.

Activities and achievements

Theoretical and empirical models developed by the MaMTEP group have enabled the group to engage in recent debates regarding:

- Financial instability
- Macroeconomic imbalances
- Capital controls
- Household debt
- Unemployment benefits

These models have been documented in several publications and presented at various international conferences.

Impact and influence

The research completed by the group has impacted the policy arena through presentations and discussions with Statistics Denmark and the Ministry of Finance. In the international environment, the group has collaborated directly with Statistics Iceland, with Prof. Gylfi Zoeg, of the Icelandic Monetary Policy Committee, and with the Institute for New Economic Thinking (INET).

The PK-SFC community is one of the fastest growing branches of macroeconomics worldwide, and several members of the MaMTEP group are administrators of an international SFC Facebook page. The Facebook group includes over 390 members, and enjoys the participation of research communities from all around the globe, and of the pioneers of the most prominent modern computer coding tools for SFC models, Gennaro Zezza and Antoine Godin.

The group has received substantial attention from the international community and works on influencing public opinion and policy perspectives in both Denmark and Iceland.

problems such as questions of modelling, our membership of the EU, economic policy proposals, the importance of educating students the right way etc. Furthermore, we are aiming to place Aalborg University as well as the North Denmark Region on the international map as well as in a national context in an effort to contribute, to enhancing the regional growth potential of Northern Jutland. Below we present one case of how we see ourselves as having an impact to society.

9.5 Future Plans

In the years to come, our plan is to continue and strengthen our research activities, especially with a focus on macroeconomic and financial modelling within the tradition of SFC modelling and economic methodology in particular.

Our aim is to establish ourselves as a recognized economic research centre of macroeconomic and financial modelling specializing in SFC research. Furthermore, we are planning to establish a new Aalborg Centre for Economic Methodology (ACEM).

We will continue to expand our network activities, including participation in/and organisation of conferences. Moreover, we intend to publish at our present level and if possible enhance our publishing activities further. Finally, in the next five years we hope to be able to gain a 'critical mass' of at least ten fulltime-employed academics. To continue to gain success as a research group, we need to expand in numbers of staff within the field of finance and SFC modelling.

9.6 Panel Evaluation [to be completed during the visit]

Observations

Recommendations



10. Organizational Renewal and Creativity Applied (ORCA)

Executive Summary

The Organizational Renewal and Creativity Applied (ORCA) research group was established in 2012 as an attempt to join and develop thoughts from two existing research groups at the department: (1) people working in organisational sociology, leadership and philosophy of science; and (2) people working with creativity and training (Unlimited Knowledge Application [UKA] subgroup). The idea was to create something new in business economics and challenge mainstream ideas. Today, the core group comprises four associate professors, one assistant professor, two PhD fellows and one special consultant.

The research focus spans from philosophical reflections, practical interaction, experimenting and the curious approach to creativity and knowledge, to a search for knowledge regarding leadership, learning and renewal within organisations. The underlying research is mainly qualitative and within the action-based research tradition with a cross-disciplinary and problem-based approach. Following this pattern, all members are involved in different activities and collaboration outside the university. In general, these activities are connected to the ongoing research projects, not least including the PhD projects.

Since ORCA was established, the total number of publications has grown steadily (in the period the group has 47 publications), although the total number of BFI points shows a high degree of variation over the years, depending on the publication channel, with an average of around 6 BFI points per year. The strategy has been to publish in a broad range of journals

and to use publishers that are open to cross-disciplinary approaches. The publication profile confirms ORCA's involvement in many book projects; however, there is an increasing focus on journal papers at the same time.

Five out of the six PhD projects are financed to various extents by external funding, and the UKA subgroup has ongoing activities and projects that are externally funded. The ORCA group is currently involved in the initial stages of a couple of international projects and plans to participate as partners in applications for external funding in the years to come. From 2012-2017 ORCA has generated approx. DKK 4.1 m.

The plans for the future depend to a high degree on the staffing situation (currently the group has eight members); that is, plans hinge on whether the group is able to expand with new PhD projects and tenure positions as the group is currently at a critical size and reducing in number. If this tendency is resolved, the group will be able to join new collaborative projects and apply for more external funding to consolidate the group's activities related to research, teaching and third-mission activities.

10.1 Research profile

The association of scientists in ORCA focuses on the development of and challenges facing organisations and their associated creativity. The primary aspects are qualitative- and action-based

research with a cross-disciplinary and problem-based approach. Our philosophical perspectives are in the traditions of phenomenology, hermeneutics, critical theory and symbolic interactionism. The focuses are on the ontological, epistemological and discussions of being, and development of the self and organisations, as well as the whole discussion of knowledge and creativity from perspectives that differ from the mainstream. The aim of the group is to support and develop an environment for scientific reflections, which, in collaboration with the private and public sectors, can contribute both nationally and internationally with constructive, critical and renewing research regarding organisations, leadership and creativity. The group's academic interests cover a broad spectrum from philosophical reflections, practical interaction, experimenting and the curious approach to creativity and knowledge, to a search for knowledge regarding leadership, learning and renewal within organisations. In addition, a focus on ethical questions and sustainability is prevalent. The group's potential is found within the combination of these approaches. The internal and external collaborations forge the ideal foundation to develop the philosophical and practical aspects of all participating parties. Our primary forces for action are development and change, which are evident in all of our teaching as well.

In the Unlimited Knowledge Application (UKA) subgroup, we are interested in how individuals and groups might work towards a more unlimited

application of knowledge and thus enhance their level of creativity in education, work and everyday life. In our research, we focus primarily on four basic principles of creative behaviour and thinking:

- Same focus at the same time, that is, one focus at a time (parallel thinking)
- Focusing on the task and nothing else (task focus)
- No experience of judgement (no experienced judgement)
- Use of all knowledge available (horizontal thinking)

We have developed three concepts based on these four principles in an attempt to enhance an unlimited application of knowledge:

- Creative Platform (used for teaching and development processes)
- 3D Didactic (exercises to directly affect the body, mind and attitude)
- Embodied Training Program for New Thinking (training of creative behaviour and thinking in short- and long-term perspectives)

In our research, we attempt to develop materials and tools according to the open source principles to make it as easy as possible for any practitioner to start applying our concepts in practice. Our research methodology takes point of departure in action and experimental research. We are therefore often involved in the planning, implementation, reflection and identification of learning in the projects.

10.2 Organization, Composition and Financing

Current Research Staff as of 31 December 2017

Associate professors

Michael Fast
Frederik Hertel (IBC as second affiliation)
Søren Hansen (subgroup UKA)
Christian Byrge (subgroup UKA, and member of BDC)

Assistant professors

Kim Malmbak Møller

Enrolled PhD students

Katrine Lunde Berke (on leave)
Bjarke Grønbaek Møller (part-time) (on leave)

Special consultant

Jonna Langeland Christensen (subgroup UKA)

Affiliated

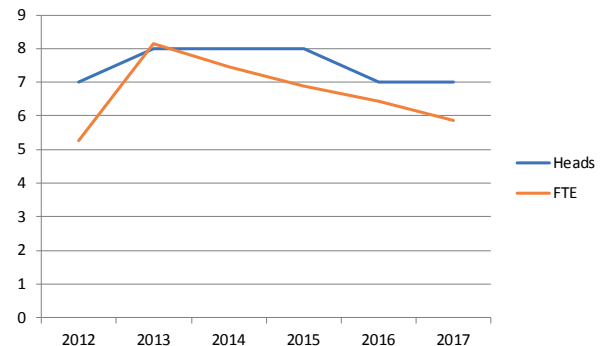
Rasmus Lindegaard, part-time lecturer, Department of Business and Management
Mogens Sparre, assistant professor, Department of Learning and Philosophy

Staff Development

The research work in the group is organised from the perspectives of solidarity, work enjoyment and self-interests. As described previously, there are two subgroups that follow their own lines of thought but also work together and inspire each other via discussions of ideas and concepts. The group organises seminars with discussions of papers, project ideas, teaching and other pertinent issues for members. The everyday working life and the meetings where thoughts and ideas are exchanged are important. In that way, the creation of a group environment has been both the focus but also time consuming. Over

the years, almost half of the group members have been PhD fellows affiliated with the group, so much of the focus has been on their work. Besides this, the attempt to establish a platform for teaching has been important. The research leader was elected by the members of the group and functions as coordinator, spokesperson and mentor.

Figure 10.1: Research Staff Development 2012-2017, Heads and FTE



Although there is a good mix of ages among members, there are only two women in the group. As we are currently understaffed and declining, we are, of course, interested in gaining new members, as we hope that our PhD fellows can and will get positions after presenting their defences.

10.3 Strategies, Activities, Output and Academic Impact

The main and essential part of the strategy is, as described previously, to focus on the development of our philosophical perspectives in phenomenology, hermeneutics and critical theory, together with a focus on cognition and learning, creativity and knowledge. We will therefore continue to work in this way, as we can see those discussions are lacking

in the business economics field and in the teaching field. Another import part of our research strategy is to continue to work within a broad perspective since we assume that reflections and enlightenment of different fields of science are necessary and important for developing new thoughts and ideas. Being cross-disciplinary is essential, as it also works with the didactic Problem-Based Learning (PBL) perspective at Aalborg University. This focus will also be a part of international research projects. We will continue to publish in quality publications that can make a difference. At the moment, we are intensively involved in many book projects (see the following 'Publication' section), so it is a matter of creating space for new projects.

Publication

From the beginning, ORCA had a strategy to publish both in Scandinavia and internationally. The strategy has been to publish in a broad range of journals and publishers, both in order to become known and because our papers and book chapters are cross-disciplinary and include several fields, as shown in the following list.

Journals	Publishers
Akademisk Kvarter [in Danish]	Palgrave Macmillan
Theoretical Economics Letters	Elsevier
Journal of Creativity and Business Innovation	Springer
Bulletin of Economic Theory and Analysis	Science+ Business Media
Thinking Skills and Creativity	Frydenlund Academic
Journal of Special & Gifted Education	Udvind Vækst
The Journal of Learning in Higher Education	Aalborg Universitets Forlag
Journal of Communication and Computer Problems of Education in the 21st Century	
Forskning og forandring [in Danish]	

Figure 10.2 shows ORCA's aggregated number of BFI points from 2012 to 2016. Parts of the variation over the years may be explained by taking a closer look at the development in types of publications (see Figures 10.3 and 10.4).

Figure 10.2: BFI-point 2012-2016

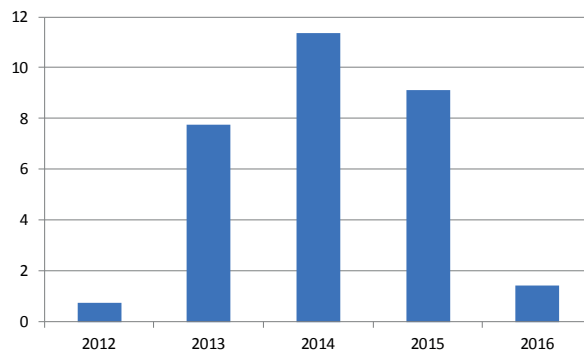


Figure 10.3 shows the total number of publications split over different types of publications. It confirms ORCA's involvement in many book projects but at the same time shows an increasing focus on journal papers.

Figure 10.3: No. of Publications Split on Publication Categories

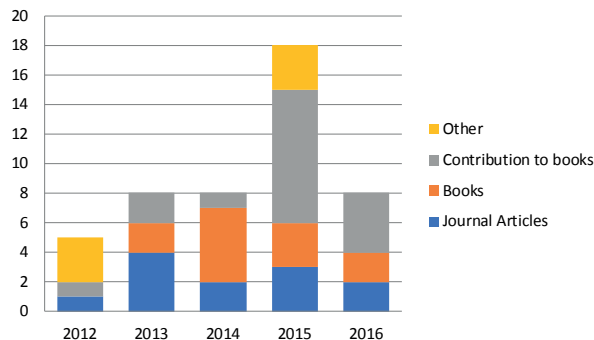
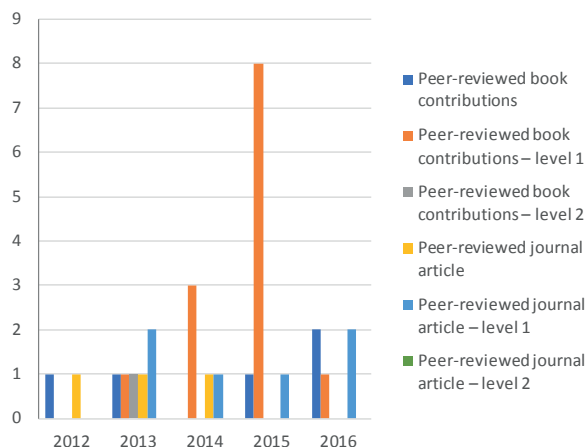


Figure 10.4 is based on the selection of publications that are included in the Danish BFI system. Most refereed publications are BFI level 1. The group gives priority to publish where it seems most relevant in terms of interested readers. BFI classification has hitherto been less important. An even closer look at the BFI distribution reveals that especially the UKA subgroup's book publication activities account for the majority of the BFI points in 2014 and 2015.

Figure 10.4: Refereed Publications and BFI Level, 2012-2016



In 2017, Kim Malmbak Møller and Michael Fast received the Best Paper award at the International Conference on Learning and Administration in Higher Education 2017 with the following paper: 'Learning and Cognition - the interplay between the Subject and the Group: Understanding the processes of problem-based learning'.

The group members are currently involved in several international book projects:

- *Handbook of Multidisciplinary Perspectives on Entrepreneurship (2018)*
- *Leadership as Profession: Towards Certification*

for Leaders? - An Academic Debate Book (2018)

- *TBRP: Theory Building Research Programme (2019)*
- *Qualitative Economics vol. II (2019)*
- *Qualitative and Quantitative Economics (2019/2020)*

As is the case for most other staff members with teaching obligations, the major challenge for the group is allocating enough time to the research and writing processes. Being critical and outside the mainstream, many journals reject our work, so we always are looking for interesting places to publish and partners in our fields for cooperation. Since the start of ORCA, the number of publications has grown steadily, and this may continue with all the projects in which we are currently involved.

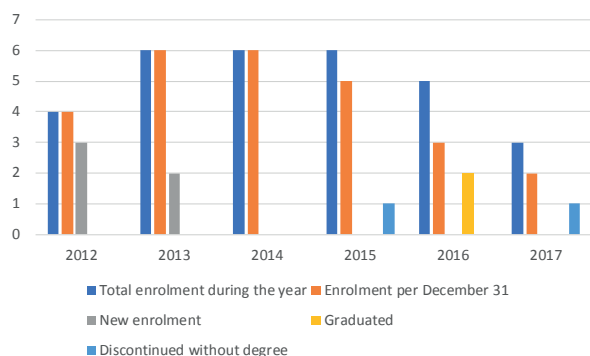
Research Training (PhD)

As described previously, the PhD fellows are colleagues who participate in all discussions, develop teaching and courses, and receive comments from all seniors and from each other. The six fellows that have been part of the ORCA group are all former students from our department. They all worked more or less with ideas that they developed during their master's thesis, which worked together with our ideas and knowledge. In the evaluation period, we also have been openly and actively supervising or discussing PhD fellows' work from other research groups. As a part of this, the fellows submit papers to the seminars. The following PhD projects were affiliated with ORCA from 2012 to 2017:

- Rasmus Lindgaard: 'Everyday creativity in organizations' (discontinued)
- Rune Osmundsen: 'Creativity training and implementation in organizations' (discontinued without degree)

- Kim Malmbak Møller: *‘Erkendelse og organisatorisk praksis – at undre sig over mennesket fra filosofisk, sociologisk og neurovidenskabeligt perspektiv’* [in Danish] (‘Cognition and organizational praxis – to wondering on the human being from a philosophical, sociological and neuroscientific perspective’) in cooperation with HEF/Energi Nord (graduated 2016)
- Mogens Sparre: *‘Kultur er noget vi giver hinanden. Projekt om kultur, Ledelse og magt: i et aktionsforskningsperspektiv’* [in Danish] (‘Culture is something we give to each other. A Project about culture, leadership and power: An action research perspective’) MAN Diesel & Turbo (graduated 2016)
- Katrine Berke: ‘Project Management’, Rambøll/ Attractor, supported by Innovation Fund Denmark (on maternity leave)
- Bjarke Møller: ‘Collective actions – Sport Management, culture and organizational renewal: The case of ice hockey’ in cooperation with University Collage North, Sport Management (on leave)

Figure 10.5: PhD Enrolment (2012-2017)



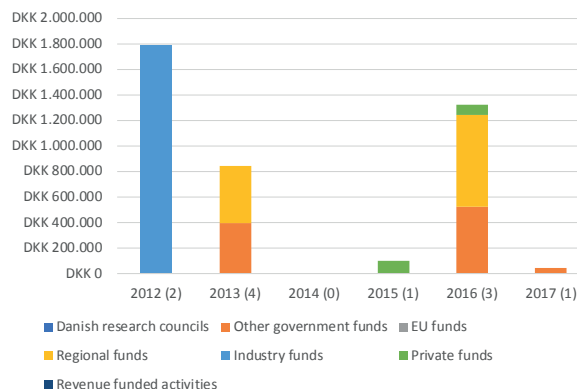
All projects have a base in empirical cases, philosophical reflections and theoretical conceptualizations, and all are published or planned to be published as monographies.

Figure 10.5 summarises the PhD enrolment from 2012 to 2017. Currently, the two remaining enrolled PhD students are on leave, but we expect that both will submit their thesis for defence in 2018.

External Funding

The department finances all the senior positions as well as the assistant professor. Regarding the current two PhD positions, one is started as an industrial PhD financed by the Innovation Fund Denmark and a larger consultancy firm, and one is financed in cooperation with University College North (75%) and the department (25%). Three former PhD students were financed partly by the department (50%) and partly by external funding (50%).

Figure 10.6: New Grants in DKK and Sources 2012-2017



Note: 2012 (2) indicates two grants in 2012, etc.

Figure 10.6 shows the amount of new grants and funding sources from 2012 to 2017. Although we have taken part in some applications,

unfortunately, we have not succeeded (Nordic Network on Scandinavia leadership, Existential-Phenomenological Network on research in social existence, Erasmus+ on development of education).

We are currently involved in a couple of international projects in the initial stage, and we plan to participate as partners in applications for external funding in the years to come (Erasmus+, Existential-Phenomenological Network, Marie Curie). To create time and space for more research, funding would be welcome that could lessen the amount of teaching in periods, provide administrative support and cover some costs for travelling, cooperation and establishing conferences. In relation to larger projects, we see ourselves as partners rather than leaders of applications. We are open to external funding and projects, but time and resources to write applications are limited.

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and cover some costs for travelling, cooperation and establishing conferences. In relation to larger projects, we see ourselves as partners rather than leaders of applications. We are open to external funding and projects, but time and resources to write applications are limited.

Research Collaboration Outside the Research Group

During the evaluation period, we have had many collaboration partners, including private companies (MAN Diesel & Turbo, HEF/Energi Nord, Rambøll/Attractor, Grundfos and Clark Strategic Partners [USA]) and public institutions and organisations (University College North, and several municipalities and public schools in Denmark), below we present the partners that are of strategic importance to the group.

Besides these collaboration partners, we have several national and international partners and projects related to creativity.

We will continue to write together with different international scholars. The purpose of ORCA is to study the essence of any phenomena, and, as

Name of collaborator	Why is this of strategic importance to the group?
International Business Centre at Aalborg University	Book projects, PhD course, applications for external funding
Forum for eksistentiel Fænomenologi, Denmark	Discussions and reflections on phenomenology and existence, research applications
Woodrow Clark, Calif., USA	Book projects, papers, discussions of qualitative economics and sustainability
Theory Building Project	Book projects, PhD course, applications
The Entrepreneurial School (TES)	Creativity and entrepreneurial discussions

such, we seek to develop a philosophical framework that can support the inclusion of other scientific paradigms. So far, the group has worked with individuals from the fields of cognitive neuroscience, entrepreneurship, sociology, applied philosophy, anthropology and communications

Research and Teaching Coherence

At the moment, we are teaching courses in Philosophy of Science in the International Bachelor Programme in Business Economics and Administration (BSc. EBA) second semester, the top-up programme and the master's programme in auditing first semester. We are responsible for the courses in Qualitative Methods and Organisation at the EBA programme third semester. Furthermore, we run a course in Strategic Change and Leadership in the master's programme in auditing second semester. Besides those courses, we have workshops in Philosophy of Science for EBA students and for those students that we supervise at the Danish Bachelor Programme in Business Economics and Administration (HA) sixth semester, plus a course in Organisational Dialectics for EBA sixth semester. We also provide a full semester in Creative Genius for master's students during their third semester and a similar part-time programme for professionals. One member is teaching Creativity at the Sino-Danish master's programme in innovation management in Beijing. Curriculum for all the courses includes, among other material, some of our own publications. We also organised a Philosophy of Science and PBL seminar for external part-time supervisors. We have not been involved in the Philosophy of Science course or the Qualitative Methods course at the Danish programme, HA, top-up and the master's programmes. However, we contribute by ensuring quality as we publish in the philosophy of science

field. We supervise mainly in the above-mentioned semesters, as well as in bachelor theses at both BSc programmes.

Finally, we have supervised the PhD projects, seminars and workshops in ORCA for PhD fellows. We have one member involved in the PhD course Theory Building Research Programme (5 European Credit System Transfer System [ECTS] credits) coordinated by Romeo Turcan from the IBC Group. The course has been running for five years.

In the years to come, we hope to start up a master of science in our fields of philosophy of management, identity and corporate development/philosophy, knowledge, creativity and organisational renewal. We believe that we can contribute with something new in business economics that can educate students for the future to enable graduates to think in complex and critical ways, make qualitative analyses, and work with knowledge, creativity and sustainability in a broad and holistic way. We believe that there is a need to think of business economics as qualitative sustainable economics, which requires working with the students' self-development (*Bildung*).

We have been heavily involved in the administration and development of the EBA programme as coordinators in the third and fifth semesters, and, until December 2017, we had the position as the overall coordinator for the EBA programme. We have also served as a member in the Study Board.

Summing up, there is a fine coherence between our teaching activities and our knowledge, research and interests. This is though not the case at master level programmes.

Third Mission Activities and Collaboration Outside Research

All members are involved in different activities and collaboration outside the university. Examples are guest lecturing, teaching in other educational institutes, consulting, teaching external courses, attending meetings, coaching external supervisors and discussing possible joint projects. Mostly, we can see such activities connected to the research projects, as described in the PhD projects and in other empirical studies where the 'side effects' are beneficial for all parties. The group has a broad network of former students and colleagues, and some of these individuals meet on a regular basis to discuss the group's research.

For communication purposes and for branding and awareness, we have a web page within the department. The group uses VBN as the research database where all publications and many activities are described and we also use LinkedIn and Research Gate. The UKA web page on the university platform and the Facebook page describe the research and the creative platform. We all maintain contact with many former students, interacting regularly on different types of questions and ideas,

Number of downloaded free publications.

Title	Number of downloads (January 2018)
Værktøjskasse til kreativitet Publikation: 2D/3D [in Danish]	27,712
Den Kreative Platform 3D Didaktik & cases, Publication: digital [in Danish]	13,122
Den Kreative Platform teori video, Publication: digital [in Danish]	12,483
Den Kreative Platform energiser, Publication: digital [in Danish]	8,874
Toolbox for Creativity, Publication: 2D/3D	7,923
Qualitative Economics—A Perspective on Organization and Economic Science	4,518 downloads and 8,393 views
Economics as a Science of the Human Mind and Interaction	2,906 downloads and 3,995 views

as well as offering help.

The challenges for everyone in this endeavour, including updating web pages and links, are the lack of time and secretary support. Therefore, these will always be second-place activities. The work we consider as important is presented through different channels.

10.4 Societal Impact

How do we measure the impact of research in social sciences and humanities? According to the Research Excellence Framework (REF), societal impact is 'an effect on change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life beyond academia'. Societal impact is not easily measured, and, in many ways, it is easier to see the effects from a new product. However, when we talk about our research and impact, this must be seen in relation to Phrōnesis and the search for wisdom.

This process cannot be considered as a single event or as occurring on a specific date. Cognition and consciousness about thinking, critical writings and attempts to develop concepts to describe and understand phenomenon in the world are impossible

PhD project: ‘Culture is something we give to each other. A Project about culture, leadership and Power: An action research perspective’, MAN Diesel & Turbo (defended 2016)

The case study draws on the hermeneutic phenomenological tradition and adopts an action research methodology. This participatory action research (PAR) project differs from traditional empirical approaches because it involves the employees of the case company. The primary purpose was to improve their day-to-day work in the organisation by getting more insight into the company culture. For several years, the organisation that provides the setting for this study has been undergoing a comprehensive transformation process that has significantly influenced its structure, management and strategy, as well as the well-being and work life of its employees. Because production has been discontinued, the future of the organisation now depends on the provision of knowledge and services. In adopting an active role, this project has attempted to influence, develop or change the ways in which the employees experience the intersubjective understanding and production of meaning associated with the phenomenon of culture and the way in which culture develops or is created. Management wants the culture of the organisation to be transformed from the original industrial culture into an up-to-date knowledge-based culture. Because we hypothesise that cultural influence must primarily originate from management, it is management that constitutes the field in this project. Drawing on the action research platform, we organised a group of managers called the ‘Board of Culture’ who would later function as co-researchers, and we organised a second group of co-researchers called the ‘Young Savages’. The case study is based solely on the participants’ own desire and ability to change their own and others’ perceptions of the prevailing understanding of the culture among the organisation’s members.

During the three-year project, three comprehensive culture assessments were completed. They served as a feedback loop from the rest of the organisation’s leaders. The three cultural analyses demonstrated the effect of the changes on which we have been working; moreover, they provided the basis for subsequent reflections and new interventions in the form of workshops, concrete actions and much dialogue about the phenomena of culture, leadership, fear and strategy.

The study has facilitated work on the understanding of change, power, fear, leadership, strategy and culture. In the spirit of PAR, initiatives were only taken up if they had been initialised or approved by participating co-researchers. The project has led to significant and powerful results in the form of new understandings and discoveries, paradigm shifts regarding how culture creates meaning, new symbols of power, new organisational forms, new perspectives on leadership and a reduction of uncertainty and fear. Not only did the project address the research question of cultural influence, but a clear majority of the participating co-researchers indicated that the project had a significant positive impact on their present and future working lives. The achievement of such impact is a key ambition in most action research projects. The project has created new models elucidating a possible link between management style and the creation of fear and uncertainty. Finally, the concept of culture was changed from a remote concept to something for which the employees themselves carry a responsibility.

to measure. However, we can say that when meeting with students and people outside the university, they express that they have learned and seen something new, and are thinking in a new way. This is very clear when our students say, 'we have never done projects in this way—it makes sense, and we have learned a lot'. We think that the teaching and the students' use of our research is the largest societal impact of the group, as they learn something new and apply it in relation to their work and meeting with other people. Therefore, in this way, we can legitimise our group and our research because we do make a difference. Likewise, in action research projects, people often express that they have learned and think in a new way.

A very concrete impact is the creative platform and the training and teaching in a new way in schools. This has been going on for many years, involving hundreds of teachers and pupils. Our impact may be reflected in the number of downloaded free publications.

10.5 Future Plans

In many ways, the plans for the future depend on the staffing situation, and currently we are understaffed. Because we are involved in many projects, in teaching and in administration, we need more flexibility and resources so we can coordinate and support each other more fully. One plan is to get support from the department to fill more positions; we hope our two PhD fellows will be able to apply.

Regarding the publication strategies, they will continue, as we are already involved in both book projects and papers with publications in 2018–2020. The international cooperation will continue and, we hope, on a large scale but it is a matter of priority and of contribution to our group, both in relation to who

and what. We want to start up two new PhD projects in the creativity field and in the organisational renewal and leadership field. Therefore, we are looking for candidates and funding. In the years to come, and if the resources are available, we will work on establishing a master's programme in our fields of interest.

10.6 Panel Evaluation [to be completed during the visit]

Observations

Recommendations



11. Centre for Impact Analyses of Investments in Knowledge and Technology (IMPAKT)

Executive Summary

IMPAKT was formally established in 2014 by a group of researchers interested in empirically based analyses of industrial transformation in Denmark and comparable countries. The members of IMPAKT also share an interest in engaging with policy and business communities through research and user-oriented analyses that (i) generate new knowledge which can inform policy decisions or inspire behavioural changes in public as well as private organizations; and (ii) provide knowledge on the effect and wider societal impacts of policies and behavioural changes.

IMPAKT currently has eight members, with a fifty-fifty division of members who have IMPAKT as their primary and secondary research group affiliation, respectively. The widespread occurrence of affiliations to other research groups in addition to IMPAKT reflects that IMPAKT is in the emergent phase where activities and profile are still under development.

IMPAKT has undergone a considerable development since 2014. The publication output is rapidly increasing from a low starting point. During the period 2014-2016, the members of IMPAKT published 40 publications, of which eight are peer-reviewed journal articles¹. Ensuring a scientific output from projects with practitioners can be a challenge, and accordingly, this is a prioritized area

with room for improvement. In parallel with working on increasing the scientific output from projects with practitioners, IMPAKT will also work on the further development of methods for disseminating knowledge to practitioners.

Until now, IMPAKT has only been indirectly involved in PhD training through the affiliation of a PhD student who is enrolled under another research group, but has joined IMPAKT as her secondary affiliation, as well as through members' supervision of PhDs associated to other related research groups. IMPAKT is preparing to apply for funding for PhDs, who have IMPAKT as their main affiliation. The short-term ambition is to generate funding for two PhD students.

IMPAKT values cross-disciplinary work, both within the group, where members span different sub-disciplines related to business and industrial economics, and in collaboration with researchers outside of IMPAKT. IMPAKT aims to increase cross-disciplinary collaborations with other research groups and departments at Aalborg University. One framework for increasing such collaborations is Aalborg University's Strategy 2016-2021 for knowledge collaboration and societal impact. Under the strategy, IMPAKT has received a grant of DKK 1.265 m. over a two-year period to carry out research and analyses that can increase knowledge about the university impact. This grant, and the associated tasks, also provides an opportunity for

¹Only publications based on research carried out since IMPAKT was established are included in these figures.

generating greater awareness at Aalborg University about IMPAKT and its research.

IMPAKT will not only work on increasing awareness and collaborations inside AAU. At the individual level, the group is well connected to national and international communities within IMPAKT's research fields, but relations at group level are to be developed further.

During its first three years, IMPAKT generated app. DKK 1.5 m. in external funding for four minor projects. Attracting external funding for core activities, both from users and through research grants, has high priority. The aim is to use the funding related to Aalborg University's strategy as a lever for attracting additional external funding.

In terms of teaching, IMPAKT members are involved in a wide range of bachelor and master programmes, including executive programmes. Already, IMPAKT research is used in teaching, and as the group develops, research-teaching coherence is expected to increase further.

11.1 Research profile

IMPAKT's research focus is on issues related to industrial transformation, with a particular emphasis on knowledge and technological change, including education, R&D, innovation and entrepreneurship. The role of universities as knowledge creators,

collaboration partners, producers of graduates, and breeding grounds for potential entrepreneurs constitutes a specific sub-area of research.

The members of IMPAKT apply diverse research methods, spanning from action research and a variety of qualitative methods to quantitative methods applied on register and survey data. Research disciplines include organization and management studies, innovation and entrepreneurship studies, and labour economics.

IMPAKT aims to engage with policy and business communities through carrying out research and user-oriented analyses that:

- generate new knowledge which can inform policy decisions or inspire behavioural changes in public as well as private organizations; and
- provide knowledge on the effect and wider societal impacts of policies and behavioural changes.

The last point includes evaluations and broader impact assessments of specific policy initiatives and investments in education, research, innovation and entrepreneurship.

IMPAKT is a young research group, established in 2014. As a general rule, activities carried out by IMPAKT members prior to January 2014 are not included in the present self-assessment report. However, section 4 on societal impact does include a case that goes back further in time. This choice is

Timeline

	Event	Funding and projects
2014	<ul style="list-style-type: none"> • IMPAKT is officially established, and initially works as an extended sub-group of the IKE research group. 	<p>The first project is an analysis of sub-suppliers in Denmark, focusing on the transformations they have undergone during the last two decades, funded by the Danish Industry Foundation.</p>
2015	<ul style="list-style-type: none"> • IMPAKT expands its collaboration with relevant partners, including the Research Center for Evaluation at the Dept. of Political Science (e.g. resulting in a textbook on evaluation published in 2016). 	<p>IMPAKT carries out an analysis of the effects of entrepreneurship education on career trajectories funded by the Spar Nord Foundation.</p>
2016-2017	<ul style="list-style-type: none"> • IMPAKT's profile as a separate research group is strengthened, and the fruits of the previous two years' work become visible in a marked increase in publications. 	<p>IMPAKT carries out two projects with – and funded by – policy stakeholders (the municipalities of Aalborg and Sermersooq, respectively), and receives an internal grant to carry out research and analyses on universities' societal impact. IMPAKT is also part of the Innovation Fund Denmark funded project DIRECTLY (Databased REal-time Collaborative Logistics sYstem) led by the Department of Civil Engineering.</p>

based on the fact that the societal impact of research activities takes time to unfold. The selected case is based on research carried out by IMPAKT members and represents a core research area in IMPAKT.

IMPAKT started out as a sub-branch of the IKE research group, but has spun out and developed to include members from other related research areas, and is continuously working on sharpening its profile.

11.2 Organization, Composition and Financing

Current Research Staff as of 31 December 2017

Professors

Poul Houman Andersen, IKE as secondary affiliation
Christian Richter Østergaard, IKE as primary affiliation

Associate Professors

Ina Drejer, research group leader, IKE as secondary affiliation

Kristian Nielsen

Jacob Rubæk Holm, IKE as primary affiliation
Allan Næs Gjerding, FIRM as primary affiliation

Assistant Professors

Pernille Gjerløv-Juel

PhD Students

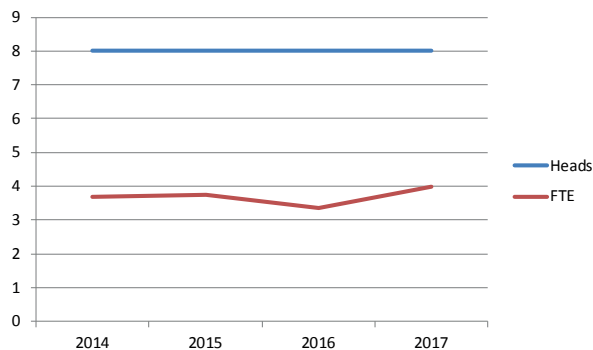
Louise Brøns Kringelum, FIRM as primary affiliation

Staff Development

As mentioned earlier, IMPAKT started out in 2014 as a sub-branch of the IKE research group on Innovation, Knowledge and Economic Dynamics, but has developed to include members from other related research areas. The majority of IMPAKT members are also associated to or full members of other research groups at Aalborg University (IKE and/or FIRM, both the Department of Business and Management, as well as the Research Centre for Evaluation, the Department of Political Science). We consider this a natural development pattern

for an emerging research group whose members were driven by interest to join the new group, but did not necessarily wish to cut the ties to their initial research groups.

Figure 11.1: Research Staff Development 2012-2017, Heads and FTE



Currently, the group counts eight members, including two professors (both male), four associate professors (three male, one female), one assistant professor (female) and one PhD fellow (female). All members of IMPAKT are PhD graduates from Aalborg University. However, this does not imply that IMPAKT works in an inward-looking or self-sufficient manner: Members are actively engaged in different types of international collaborations, ranging from informal research collaborations with international scholars, over part-time employments at universities outside of Denmark, to participation in European research projects and formalized international research networks. This is further elaborated below.

Three members (a full professor and two associate professors, including the research group leader) have held full-time positions outside of Aalborg University – in academia, policy-making and industry – for several years. These three members, who are all in the 45+ age group, returned to Aalborg University in 2011 and 2013, respectively.

Five members are below 45 years of age. These count one newly appointed (May 2017) full professor, two associate professors (appointed in 2015 and 2016, respectively), an assistant professor, and a PhD student (graduated early 2018, currently employed in a research assistant position).

All members are employed in department-funded positions, but a portfolio of externally funded projects is slowly growing. During the initial phase, the number of external projects has been relatively small (see the section on external funding). During the autumn of 2017, IMPAKT engaged in a strategically important internal project for which DKK 1.265 m. was initially allocated to IMPAKT to carry out research and analyses related to Aalborg University's Strategy 2016-2021 for knowledge collaboration and societal impact.

The strategic management of IMPAKT, as well as the coordination of research group activities, are carried out by the research group leader, who holds an associate professorship in innovation studies with a particular emphasis on impact and policy-relevant analyses. The establishment of IMPAKT was the result of a strategic effort of the department management to establish a unit equipped to carry out research on – and policy-relevant analyses of – the effects and broader socio-economic impacts of investments in knowledge, technology and innovation. The current research group leader was recruited in 2013 with the specific aim of developing such a unit.

Whereas, in the very early days, IMPAKT worked in a network manner by which researchers were temporarily engaged on a project-to-project basis, a more stable core of researchers came together over time, ultimately leading to the establishment of IMPAKT as a distinct research group.

Bi-monthly research group meetings supplement informal day-to-day interactions between members in relation to teaching and research collaborations.

11.3 Strategies, Activities, Output and Academic Impact

The short history of IMPAKT as a research group is reflected in the strategic objectives summarized below. Emphasis is on establishing a clear research profile as well as on improving the synergy between activities.

In the next five years, IMPAKT will work actively on the following objectives:

- Developing its research profile.
- Increasing its cross-disciplinary collaborations with other research groups and departments at Aalborg University.
- Increasing its national and international networking with leading communities within IMPAKT's research fields.
- Ensuring a scientific output (primarily in the form of journal publications) from projects with stakeholders.
- Generating funding for 2 PhD students with IMPAKT as their main affiliation.
- Increasing its external funding for core activities, both from users and through research grants.
- Developing methods for disseminating knowledge to practitioners.
- Increasing research-teaching coherence.

Publication

International journal publication has high priority

in IMPAKT as a means to attract an international audience with the aim of ensuring further collaboration. Hence, the methodologies applied include state-of-the-art quantitative and qualitative methods to estimate causal effects and explore the specific mechanisms at work.

However, due to IMPAKT's short history as a research group, its focus on journal publication is not visible in the publication data covering the period 2014-2016². Accordingly, the official publication data are supplemented below by the most recent publication information, which shows a drastic increase in journal publication activity in 2017 compared to 2016:

In 2016, members of IMPAKT published seven papers in the following peer-reviewed journals³:

- Academy of Management Discoveries (level 1)
- Industry and Innovation (level 2)
- European Journal of Marketing (level 1)
- The IMP Journal (level 1)
- Industrial Marketing Management (level 2)
- Samfundsøkonomen (a Danish economics journal) (level 1)

In the first ten months of 2017, members of IMPAKT published twelve papers in the following peer-reviewed journals:

- Small Business Economics (level 2)
- Journal of Regional Science (level 1)
- Industrial and Corporate Change (level 2)
- Regional Studies (level 2)

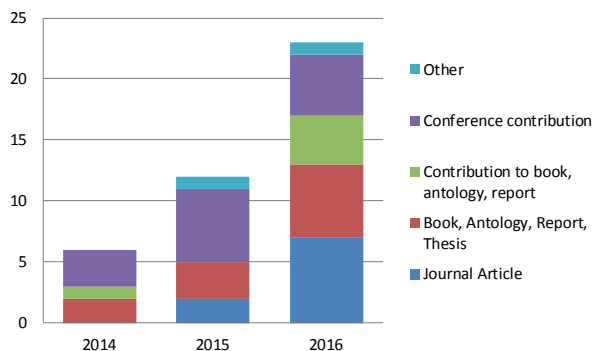
² Publications by members of IMPAKT in the period 2014-2016, which are based on research carried out before IMPAKT was established, are not included in the tables.

³ Only papers assigned to IMPAKT by the individual members are included in this overview. This implies that IMPAKT members have also published in other journals, but on topics not related to IMPAKT. "Level" refers to the Danish authority lists.

- Competition & Change (level 1)
- Journal of Evolutionary Economics (level 2)
- The IMP Journal (level 1)
- Journal of Business & Industrial Marketing (level 1)
- Multinational Business Review (not on the Danish authority list)

As a means to engage with external partners outside of academia, IMPAKT researchers also publish user-oriented reports as well as policy-briefs accessible from IMPAKT's website (during the period 2014-2017, IMPAKT published eleven such publications). It is a strategic goal for IMPAKT that all projects with stakeholders should lead to scientific journal publications. This has not yet been achieved for all projects, and is, accordingly, identified as a prioritized focus area.

Figure 11.2: No. of Publications Split on Publication Categories

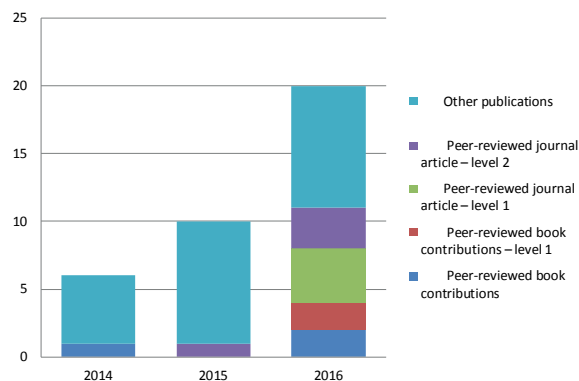


Note: One of these reports was published in 2017, and is therefore not included in the figure

Publication outlets are primarily selected on the grounds of thematic fit and expected audience, with the aim of generating academic as well as societal impact. Although BFI-points also matter as a way to document research activity (the economic benefits from generating BFI points have diminished

considerably over the last years), BFI-points are not the most decisive parameter when selecting an appropriate publication outlet. Nonetheless, as illustrated in Figure 11.4, IMPAKT's development in BFI production is rapidly increasing. We consider both the level and growth rate satisfying, but will continue to follow the development over the coming years.

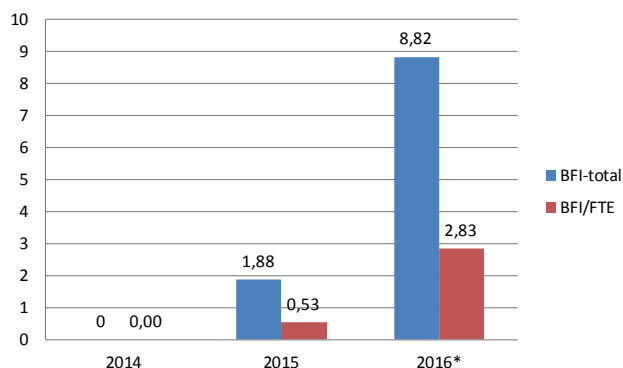
Figure 11.3: No. of publications split on BFI categories



Note: The sum of publications in Figure 11.2 (36) is lower than the sum of publications in Figure 11.1 (40). This is due to the figures being generated at different times, and some publications in Figure 11.1 not being classified according to BFI categories.

IMPAKT's journal publications have only had a very short time to generate citations, hence only three citations were registered in Scopus by end 2016 (the field-weighted citation impact is 3.53). However, as the download and citation statistics (per 17 February 2017) reported below indicate, IMPAKT research does get noticed.

Figure 11.4: Development in BFI and BFI/FTE 2014-2016



Note: * indicates that 2016 figures are preliminary figures, and PhD not included in FTE count in this table.

The most downloaded IMPAKT publications (from Aalborg University's research portal VBN) are:

- What Makes Clusters Decline?: A Study on Disruption and Evolution of a High-Tech Cluster in Denmark, journal article, Regional Studies, uploaded May 2015, 397 downloads, 24 Google Scholar citations, 9 Scopus citations⁴.
- Branching and path development in the wind energy industry, conference paper, uploaded September 2014, 224 downloads, 5 Google Scholar citations.
- The Dual Role of Multinational Corporations in Cluster Evolution: When You Dance with the Devil, You Wait for the Song to Stop, book chapter, Routledge, uploaded August 2016, 178 downloads.
- Strategic collaboration on business model innovation: A transaction cost perspective, conference paper, uploaded October 2016, 130 downloads.

⁴Due to a reporting irregularity, this publication is not included in the statistics presented below.

Research Training (PhD)

IMPAKT is part of the Innovation Economic PhD Programme at the Department of Business and Management, and the Head of the Social Sciences PhD School, as well as the Head of the Innovation Economic PhD Programme, are both members of IMPAKT.

IMPAKT has not yet recruited its own PhDs, but members of IMPAKT are supervising eight PhDs associated to other research groups. One PhD student with a main affiliation to the FIRM research group has also joined IMPAKT, and her main supervisor is also an IMPAKT member.

Recruitment of PhDs in IMPAKT requires additional funding. As mentioned previously, in the autumn of 2017, the university management allocated funding to IMPAKT which is dedicated to research and analyses related to the implementation of Aalborg University's Strategy 2016-2021. In order to supplement this funding and further strengthen the role of universities as a prioritized research area IMPAKT will work on attracting funding for a PhD project focusing on the governance aspects of promoting university impacts. In collaboration with AAU Innovation⁵, IMPAKT will also work on generating funding for a PhD project on academic entrepreneurship.

External Funding

IMPAKT is working actively towards attracting external funding from various sources in order to generate a project portfolio that includes basic research projects as well as contract work/collaboration projects with non-academic partners, e.g. public policy-makers or industry associations.

⁵The central organization for supporting and driving processes related to research funding and innovation at Aalborg University.

The collaborations with non-academic partners act as a means to ensure our external engagement, while at the same time generating new data and insights for research.

Currently, IMPAKT has only received relatively small external grants. However, members of IMPAKT have contributed to attracting major research grants to other research groups at the department, including:

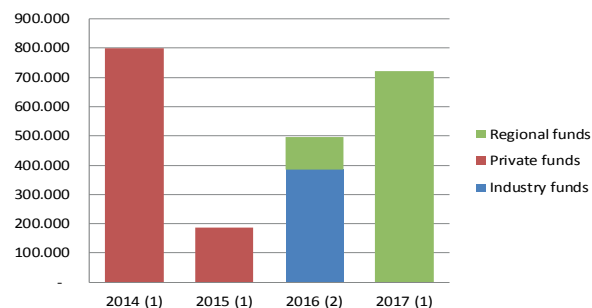
- The European Marie Curie ITN project RUNIN (the Role of Universities in Innovation and Regional Development), grant received from the European Commission in May 2016. The project is a collaboration between partners in seven European countries with a total budget of DKK 27.7 m., of which DKK 4.2 m. was allocated to Aalborg University/the Department of Business and Management. The research grant is registered under the IKE research group.
- Regional Dynamics and Disparities, grant received from the Obel Family Foundation in October 2017. The project is a cross-disciplinary collaboration between the Department of Business and Management, the Department of Political Science and the Danish Building Research Institute. The total grant is DKK 5.5 mill., of which DKK 1.9 mill. was allocated to the Department of Business and Management.

As mentioned previously, in the autumn of 2017, IMPAKT received DKK 1.265 mill. from internal university funds to carry out research and analyses related to Aalborg University's Strategy 2016-2021 for knowledge collaboration and societal impact (not included in figure 4 below).

IMPAKT is also a partner in a small project on efforts to improve the employability of Aalborg University graduates, which in October 2017 received a grant

of DKK 200.000 from Aalborg University's funds dedicated for PBL⁶ development projects. Generally, given the research focus on university impacts, attracting internal projects funded by other sections of Aalborg University is a central part of IMPAKT's funding strategy. IMPAKT has previously carried out a comparative analysis of the career paths of PhD graduates from humanities and social sciences at Aalborg University (published in 2016). Additionally, IMPAKT has assisted researchers from other faculties at Aalborg University in preparing impact sections for large-scale applications (in these cases, IMPAKT was either remunerated on a cost basis, or entered the application as a partner).

Figure 11.5: New Grants in DKK and Sources 2012-2017



While IMPAKT will continue working on attracting funding from users such as public authorities and industry associations, larger research grant applications in which IMPAKT will be the main applicant will be given a higher priority in the coming five years.

⁶Problem-based learning. This internal grant is not included in figure 11.4

Research Collaboration Outside the Research Group

IMPAKT has a wide range of formal and informal collaborations with partners outside of the research group.

Most IMPAKT members participate in the DRUID research network (Danish Research Unit in Industrial Dynamics). IMPAKT is also represented in the management of the Danish Center for Entrepreneurship Research (DCER).

Formal international research collaborations include participation in the above-mentioned Horizon 2020 project on the Role of Universities in Innovation and Regional Development (RUNIN) with university and stakeholder partners from six other European

countries, i.e. the UK, the Netherlands, Spain, Portugal, Sweden, and Norway.

On an individual basis, members of IMPAKT collaborate and publish with researchers from a wide range of national and international universities such as Copenhagen Business School, University of Southern Denmark, The Norwegian School of Economics, University of Kassel, University of Bristol, University of Nice-Sophia Antipolis, Duke University, University of Virginia, CENTRUM Catolica Graduate Business School, Pontificia Universidad Catolica del Peru Lima, and University of Adelaide.

Internally at Aalborg University, members of IMPAKT collaborate with members of other research groups at the Department of Business and Management (especially IKE and FIRM), as well as researchers

Name of Collaborator	Type of collaborator/Why is this of strategic importance to the group?
Rune Dahl Fitjar, University of Stavanger, Norway.	Project coordinator, RUNIN project. Of strategic research and positioning importance for IMPAKT due to the project's focus on the role of universities.
Saras Sarasvathy, University of Virginia Darden School of Business, US.	Co-author in relation to entrepreneurship. Well-known and highly cited professor in entrepreneurship due to her theoretical and practical contributions to entrepreneurial decision making and teaching (see also www.effectuation.org)

In addition to the above, the following partners are expected to be of strategic importance for the future development of IMPAKT's research activities.

Name of Collaborator	Type of collaborator/Why is this of strategic importance to the group?
Guido Buenstorf, Economic Policy, Innovation and Entrepreneurship (EPIE) Group, University of Kassel	Guido Buenstorf is vice-director of the International Centre for Higher Education Research Kassel, which conducts research on questions concerning higher education institutions and tertiary studies as well as on topics at the interface between higher education and other fields of society.
Manchester Institute of Innovation Research, The University of Manchester	Manchester Institute of Innovation Research is a world-leading centre of excellence in the study of science, technology and innovation policy and management, in particular studies of the impact of research, and is a highly relevant partner for IMPAKT. Members of IMPAKT already have network relations with several members of the centre.

from the Department of Political Science, the Department of Civil Engineering, the Department of Mechanical and Manufacturing Engineering, the Department of Planning, and Department of Architecture and Design and others. The collaborations include both co-publications and joint projects.

Cross-disciplinary collaborations are given high priority, and will continue to do so in the coming years. In particular in relation to developing the methods for assessing university impacts in general and the impacts of Aalborg University specifically, IMPAKT has taken on the task of supporting/inviting to networking and research collaborations among researchers from different disciplines at Aalborg University.

Research and Teaching Coherence

Members of IMPAKT are engaged in teaching at a wide range of educational programmes at all levels at AAU.

Teaching activities range from general economics, business and methodological courses to lectures that are closely related to IMPAKT's research activities, e.g. in relation to economic evaluations, innovation and entrepreneurship.

Members of IMPAKT supervise student projects on all levels, from bachelor to PhD, and encourage students to engage in projects related to IMPAKT's research areas. These projects can either be "stand-alone" projects, or can be related to specific ongoing projects.

Third Mission Activities and Collaboration Outside Research

IMPAKT is characterized by an emphasis on engagement with policy and business communities. This engagement is primarily achieved through user-oriented projects carried out by assignment of or in direct collaboration with for instance municipalities, regions, or professional organizations including industry associations.

Several of IMPAKT's third-mission activities are carried out in collaboration with CLS, a knowledge-based organization (and subsidiary to the Port of Aalborg Group) working with knowledge dissemination, business models and logistics solutions.

IMPAKT members include experienced facilitators of workshops and learning processes, and projects with stakeholders often include user-oriented workshops, seminars etc. Recent examples include:

- RUNIN workshop for local policy makers and university matchmakers on The Regional University of the future: The Role of Universities for Innovation and Regional Development, June 22, 2017.
- Action research workshop on barriers and potentials for industrial development in the Sermersooq Region, Greenland, June 13, 2017.
- Opening conference of the Centre for Research in Regional Dynamics and Disparities, May 16, 2017.
- Presentation based on results from a comparative analysis of the career paths of PhD graduates from humanities and social sciences at Aalborg University (see section 3.3) at the conference "PhD career paths outside academia – Entrepreneurship and employability for young researchers", February 27, 2017.

- A series of workshops on knowledge sharing and co-development in relation to the business development of port areas, Spring 2017.

In addition to prioritizing interactions with practitioners as a means to generate impact, university impact and third-mission activities are also a main research area for IMPAKT. This means that the university management and AAU Innovation are also part of IMPAKT's target group. The newly acquired two-year funding – and the associated close collaboration with AAU Innovation – related to Aalborg University's strategy for knowledge collaboration and societal impact is important for strengthening IMPAKT's position as a relevant research unit studying issues related to university impact. This funding will also contribute with important new data generation that can form the basis for future research publications⁷.

11.4 Societal Impact

As mentioned in the introduction to this document, IMPAKT has had little time to generate any visible or measurable societal impacts – and such impacts do require time to unfold. Therefore, the impact case presented below is based on research carried out prior to the establishment of IMPAKT. However, the research was carried out by current IMPAKT members, and is also within areas that are part of IMPAKT's research focus.

The example is related to a specific project. This

⁷The funding includes a collaboration with Aalborg University's Grants and Contract Department on improving data collection and registration on collaboration projects, student entrepreneurship etc. This may also include the development of recurring statistics and measurements based on a combination of survey and register data. An additional benefit of such activities is that it can provide funding for annual updates of the registered data, which constitute an important source of the quantitative research carried out in IMPAKT.

does not mean that IMPAKT does not have an ambition to influence society beyond collaboration partners on specific projects. However, this is a long-term strategy which it is much too early to address and assess at this stage of IMPAKT's development path.

11.5 Future Plans

As mentioned in section 3, future plans for IMPAKT involve a further strengthening of the research group and its distinct profile. An important concrete step in this strengthening process is the hiring of our 'own' PhD students working on core issues for IMPAKT's, more specifically the governance aspects of promoting university impacts and academic entrepreneurship, respectively. IMPAKT cannot rely on internal funding for this, and therefore a dedicated effort to attract external funding is required.

Attracting funding for the two PhD projects is part of a planned general effort towards increasing external funding for core activities. The internal grant related to Aalborg University's Strategy 2016-2021 for knowledge collaboration and societal impact is intended to be used as a lever for attracting additional external funding. The research carried out in relation to the internal grant will focus on empirical analyses and on the development of methods for identifying and measuring impacts, as well as on the development of methods for disseminating knowledge to practitioners.

In the coming years, IMPAKT will also work on strengthening group-level networking and collaboration within Aalborg University as well as with leading researchers and research communities within IMPAKT's research fields.

IMPAKT will continue to focus on ensuring that

Influencing actors in the wind turbine industry

Members of IMPAKT have engaged in recurring cooperation with the Danish Wind Energy Association since 2005. The content of the cooperation has been a combination of research – focusing on the subcontractor's role and status in the wind energy sector's value chain as well as the emerging offshore wind business system – and outreach activities based on the research results.

Output of the research

User-oriented reports:

- Danmark som Wind Power Hub: mellem virkelighed og mulighed (Denmark as a Wind Power Hub: from actuality to possibility), published by the Danish Wind Power Association in October 2006 (available in Danish only).
- Udvikling og omstilling i vindmølleindustrien / Denmark – The Wind Power Hub: Transforming the supply chain, published by the Danish Wind Power Association in May 2012 (available in Danish and English)
- Offshore vindindustri i Danmark: Organisering og udvikling af et spirende forretningssystem (Offshore wind industry in Denmark: Organization and development of an emerging business system), published by the Danish Wind Power Association in September 2014 (available in Danish only).

Scientific papers:

- Regional clusters in a global World, 2006, California Management Review, Vol. 49, No. 1, pp. 101-121.
- Systemic innovation in a distributed network, Strategic Organization, Vol. 6, No. 1, 2008, pp. 13-46.
- Rivalry in business networks – towards a conceptualization, Journal of Business Market Management, Vol. 2, No. 2, 2008, pp. 99-117.

Outreach

Research results have been presented at workshops and seminars for relevant actors – in particular subcontractors to the wind energy industry – as well as at the Danish Wind Power Associations' annual meeting and at the European Wind Energy Association (EWEA).

In addition, the research has been mentioned in 10+ newspaper articles and interviews.

Impact

The research has formed the basis for decision making in companies and served as inspiration for developing courses under the auspices of the Danish Wind Power Industry Association regarding supplier certification, upgrading and customer collaboration.

The recommendations from the user-oriented reports have contributed to inspiring a business start-up in a specific and documented case in which five Danish supplier companies opened a joint factory in China in 2010 ([link](#)).

The 2006 report was used as the basis for a regional policy action in the Central Denmark Region, the Midtvind project, which initiated a collaboration between 14 supplier companies to the wind energy industry. A major aim of the policy action was to build the ground for system deliverances amongst the suppliers. Simultaneously with the first phase of this policy action project (initial period 2009-2011, extended until 2014), the second research collaboration – resulting in the user-oriented report *Udvikling og omstilling i vindmølleindustrien/Denmark - The Wind Power Hub: Transforming the supply chain – took place.*

projects with stakeholders/practitioners do not only provide user-relevant knowledge, but also lead to scientific outputs, primarily in the form of journal publications.

11.6 Panel Evaluation **[to be completed during the visit]**

Observations

Recommendations



12. Auditing, Accounting, Advice Research Group (AAA)

Executive Summary

The Auditing, Accounting, Advice Research Group (AAA Group) was established in 2011–2012 with the purpose of revitalizing research activities relevant to the Masters of Science programme in Auditing. Today (December 2017) the research group includes four tenured staff members, three Ph.D. students, and a group of affiliated – but active in research – members who are employed primarily outside the Department of Business and Management.

The group publishes a relatively substantial number of articles and books in Danish, European and transatlantic contexts. In 2016, the registered number of publications was 21. Of these, 13 are BFI-registered journal papers, monographs and book contributions. Throughout the evaluation period, the AAA Group has maintained a high level of publication, reflected in yearly average BFI points of around 30. The AAA Group gives priority to research that relates directly to the AAA profession in Denmark and Europe, and the group works closely with highly qualified experts from AAA businesses.

Most members of the research group participate in various third mission activities as well, including national advisory committees, the Danish Auditors Association (FSR), editorial boards, course activities for auditors and lawyers, etc. Experiences from praxis provides case material for both teaching and research activities.

The AAA Group is still in its formative stage as research group, and in alignment with the

Department, it is a clear strategy to expand and consolidate by attracting more tenured staff members and Ph.D. students. Related to this, the group has formulated five mutually dependent building blocks for the coming years: a) refining the identity of the AAA Group; b) consolidating and developing the group; c) expanding international cooperation; d) initiating common research projects; and e) developing a publishing strategy.

12.1 Research profile

In 2011, the Department of Business and Management together with the Social Science Faculty took the strategic initiative to revitalize a new research group related to the MSc. programme in Auditing. During 2011–2012 Professor, Doctor of Law, Erik Werlauff accepted responsibility for developing an educational and research-based environment for the Auditing master's programme. The Auditing, Accounting, Advice Research Group (AAA) thus emerged with one full professor and enrolment of its first two PhD students during 2012, with two additional PhD students joining in 2013. In the first years, the focus was mainly on teaching and building research capacity. As part of the capacity building, strategic collaborations on specific teaching areas and PhD supervision were initiated with the Copenhagen Business School (CBS). Today, the group continues to collaborate with CBS, but the

AAA Group in Aalborg has gradually been able to fill the teaching gap and secure PhD supervision.

The main research focus of the AAA group is grounded in the intersection of business economics and business law.

Within the three overarching research areas, the AAA Group especially emphasizes the following:

Auditing:

- Danish, EU-based and global auditing regulation (hard- and soft-law)
- Specialized themes related to capital markets

Accounting:

- Danish and EU-based internal accounting regulation
- Danish and EU-based external accounting regulation
- Accounting according to global standards (for instance IFRS and US-GAAP)
- Tax law
- Specialized themes related to capital markets

Advice:

- Business law (for instance company law, financing law, insolvency law)
- Specialized themes related to capital markets
- Customer – AAA-specialist relationships

The group's research is based on international up-to-date theoretical analysis and publications. An important part of the research relates directly to the Da-

nish and European AAA profession and is carried out together with highly qualified experts from AAA businesses. Thus, some parts of the research are (and must be) 'ivory-tower research', while other parts build on the close collaborations with professionals from AAA companies. This special mix is expected over time to prove competitive in an international context. Furthermore, by stressing the importance of impact, we aim to sharpen researchers' ability to define interesting and relevant areas for research.

The timeline below shows the main development of the AAA Group, emphasizing its main research focus, international activities, external networking and cooperation, and group formation.

12.2 Organization, Composition and Financing

As can be seen from the overview of current staff, a number of external researchers and/or part-time teachers are important members of the group. The persons included as affiliated members provide vital contributions to articles, books, etc., and they are actively taking part in meetings, research seminars and development of research projects.

Timeline

	Main research focus	International activities	External networking and cooperation	Group formation/structure
2011	<ul style="list-style-type: none"> • Company law • Company tax law 	N/A	<ul style="list-style-type: none"> • FSR (Danish Accounting Association) • Editor and co-editor of Danish and international magazines, for instance EBLR (European Business Law Review) and ECL (European Company Law) • Membership of Danish and international company law expert groups 	<ul style="list-style-type: none"> • Prof. Erik Werlauff recruited as head of research group (and AAA education) • One part-time external lecturer (employment law) recruited • Collaboration agreement reached with Copenhagen Business School (CBS) on teaching elements and Ph.D. supervision
2012	<ul style="list-style-type: none"> • Additional research themes: • Group law in company and accounting law • International Financial Reporting Standards (IFRS) • Counselling in relation to mergers and acquisitions • Accounting regulation 	<ul style="list-style-type: none"> • Joining various IFRS-related activities • Transatlantic activities (one PhD student placed in Canada) 	Continued	<ul style="list-style-type: none"> • Two PhD students recruited • Two new legal assistants recruited • A number of new part-time external lecturers recruited • One new associate professor recruited (rental, real estate law) • One part-time external lecturer active in research recruited • Established scheduled 'researchers' lunches' for common development and sharing of new research results
2013-2017	<ul style="list-style-type: none"> • Additional research themes: • CSR • Accounting analysis • Auditing guidelines • Tax clauses • External accounting and foreseeing economic crises 	<ul style="list-style-type: none"> • IFRS activities continued • Transatlantic activities continued 	Continued	<ul style="list-style-type: none"> • Two PhD students graduated • Two PhD students discontinued without degree • Two new PhD students recruited • At the end of December 2017, a supportive head of research group was elected (Jesper Seehausen)

Current Research Staff as of 31 December 2017

Professors:

Erik Werlauff

Associate Professors:

Louise Faber

Assistant Professors:

Alex Fomcenco

Gitte Søgaard

PhD Students:

Anders Larsen

Tanja Graversen

Susi Hjorth Bærentzen (Industrial Ph.D.)

Affiliated Members

Jesper Seehausen, Part-time lecturer, Department of Business and Management

Lone L. Hansen, Part-time lecturer, Department of Business and Management

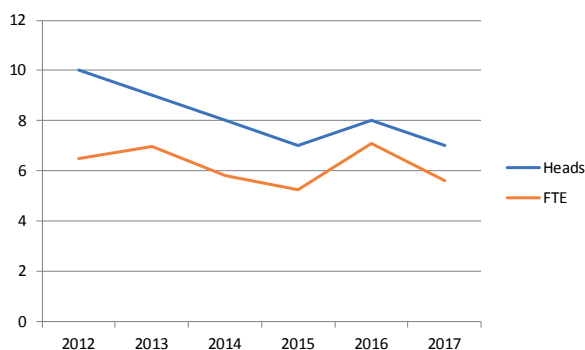
Hans Henrik Berthing, Part-time lecturer, Department of

Business and Management
 Thomas Rønfeldt, Associate professor, Department of Law, Aalborg University
 Liselotte Madsen, Professor with Specific Responsibilities, Department of Law, Aalborg University
 Peer Schaumburg-Müller, Adjunct professor, Department of Business and Management

Staff Development

The research group organizes regular research meetings, usually four per year. Each meeting has two main agenda items: First, every researcher describes results and challenges connected to his or her own research work and receives feedback from other members of the research group. Second, every researcher briefly introduces 'something new' in which they are interested. These meetings enhance reflections and feedback on research themes, doing research work as a profession, research strategies, challenges related to research, and other 'tips and tricks'. Furthermore, these meetings enhance the joint identity of the research group and the social relationships within the group.

Figure 12.1: Research Staff Development 2012-2017, Heads and FTE

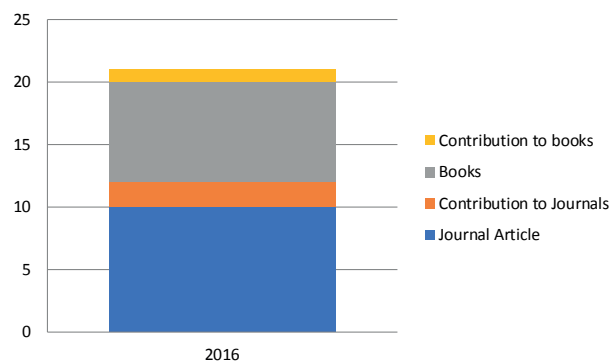


12.3 Strategies, Activities, Output and Academic Impact

Publication

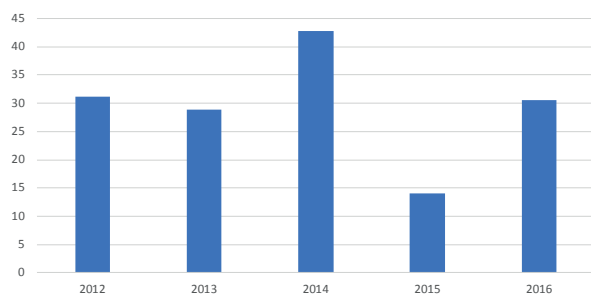
Taking into account the relatively small number of members in the core AAA Group, the group publishes a considerable number of articles and books in Danish, European and transatlantic contexts. A portion of the publications are primarily targeted to a Danish audience and an additional portion is relevant in an international context as well. In 2016, the group registered 21 publications. Of these, 13 are BFI-registered journal papers, monographs, and book contributions.

Figure 12.2: No. of Publications Split on Publication Categories



It should be noted that the AAA Group was not registered as a separate research group in VBN (the research portal for Aalborg University) until 2016, and hence the development of types of publications from 2012 to 2016 is not specified for the current evaluation period. However, the development in total BFI-points on the group level is available in figure 12.3.

Figure 12.3: BFI-points, 2012-2016



The lion's share of the publications and BFI points are produced by the head of the research group, but concurrent with the growing academic experience of the remaining group members, it is expected that their share of the publication output will increase in the future. To support young researchers, the following issues are emphasized by the group:

1. A personal research and publication strategy that goes along with the overall research strategy of the group
2. Continued support from experienced researchers
3. Financial opportunities to join international research activities
4. Planning of teaching and other obligations in such a way that longer periods for researching and international activities can be organized

The research profile of the AAA Group is currently biased towards law and business law, which is also reflected in the current list of publications from the group. However, as mentioned above, the AAA profession is based equally on business economics and business law. The research group is aware that it must strengthen its capabilities (and publications) within the business economics research themes.

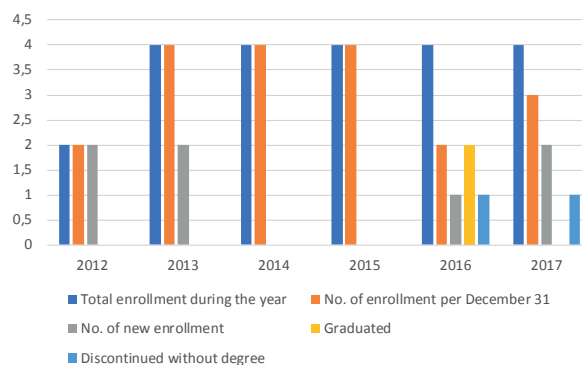
Strengthening the group's international profile is high

on the agenda for the coming years. This implies more collaborations with universities abroad, as well as with international institutions, organizations and leading private-sector experts (for instance EU-related organizations such as ESMA, IASB/IFRS [International Accounting Standards Board – International Financial Reporting Standards]) or private-sector organizations outside Denmark.

Research Training (PhD)

From 2012 to 2017, seven PhD students have been affiliated to the AAA Group, mainly financed by the Department as part of a recruitment strategy in order to consolidate the research group. In 2017, the group enrolled its first industrial PhD student. Four of the seven recruited students have a master's degree from Aalborg University, one from Aarhus University, and two from Copenhagen University. Five of the seven were already living in Northern Jutland at the time of enrolment.

Figure 12.4: PhD Enrolment (2012-2017)



The two PhD students who graduated in 2016 have both continued in positions as assistant professors in the AAA Group. Two PhD students decided not to complete their PhD degrees. One left for personal

reasons and the second decided to pursue a career in the private sector.

All AAA Group members have a strong focus on supervising and supporting PhD students. In particular, the head of the research group pays much attention to sharing his experience with all members of the AAA Group. He offers individual guidance and assistance to any member of the AAA Group who may wish to receive it. The size of the group means that no researcher is isolated concerning his or her research work, and if he or she wants mentoring or guidance, it is available.

External Funding

The AAA Group is still in the formative stage and has not yet applied for external funding except for two of the PhD projects. One PhD project received fifty percent co-funding from the Danish Auditors' Association (FSR) and the industrial PhD project is based on co-funding from the Danish Innovation Fund and a private consultancy firm.

As an integrated part of formulating a long-term research strategy, the AAA Group will look into external funding possibilities as a way to expand its research activities.

Research Collaboration Outside the Research Group

Individual members of the AAA Group collaborate with a substantial number of external partners. In addition, at the group level the AAA Group works together with external partners such as the FSR (Danish Auditors Association) and major private-sector companies. The AAA Group wants to expand this kind of collaboration and is currently seeking to enhance collaboration with IASB (International

Accounting Standards Board) in London. To enhance the group's academic and societal impact, further collaboration with AAA professionals will be pursued.

Currently, research collaborations exist with researchers from other Danish and European universities, including University of Leiden, University of Utrecht and Oslo University. As part of its future activities, the research group wants to further expand its collaborations with international research teams.

Research and Teaching Coherence

As mentioned above, the Masters of Science programme in Auditing (cand.merc.aud) was the 'first mission' and starting point of the research group. To a high degree, research emerged as a 'second mission' from teaching, themes and challenges related to the AAA profession. In line with the PBL (problem-based learning) approach, the AAA Group sees teaching and research as interdependent. Introducing new and flexible teaching methods – including e-learning – has created a unique platform for further work on impact-related activities as well as benefitted integration of teaching and research activities.

All research group members teach in the MSc. programme in Auditing, and research work is incorporated in teaching (classes) and supervision of student projects wherever possible. Very often, students choose subjects for their final thesis project that relate directly to AAA researchers' work. Several students join Professor Werlauff's weekly open consulting sessions at AAU, and many of these students integrate research from the AAU Group into their student projects. Furthermore, students are encouraged to (and assisted in) publishing

journal articles and contributions to books that relate to their learning process. As a result, some master's students have published articles, and on at least two occasions, students have published books during their study period or after graduation.

12.4 Societal Impact and Third Mission Activities

Up to now, the AAA Group has not worked systematically to define, describe, measure or document its societal impact and third mission activities. It is clear that more explicit discussions and documentation are needed with regard to how third mission activities and societal impact cases can create synergy with the research activities in the group. However, as the examples below demonstrate, most of the AAA Group members carry out in practice a variety of activities that might be classified as third mission activities, with direct and indirect societal impact.

Most members of the research group have some kind of side-occupation (and part-time group members have full-time external occupations). For instance, two members are lawyers, one is a legal advisor, one is a legal assistant, and one is an assistant in an AAA company. Experiences from praxis are often used in teaching and may generate case material for research activities.

Publishing articles and books typically has academia as the primary target, but an important part of these publications are directly relevant to the AAA profession as new articles and books provide key resources for upgrading professional skills among AAA experts. In addition, some articles and books may have a direct impact on tax-, accounting- and other AAA-relevant legislation.

Members of the AAA Group participate in various types of third mission activities:

- One member of the research group is a member of the National Administration of Justice Council ("Retsplejerådet"), appointed by the Ministry of Justice. The Administration of Justice Council provides recommendations to the Ministry of Justice concerning changes in civil law and its administration.
- One functions as an arbitrator.
- One is a member of the editorial boards of leading European journals.
- One is regularly asked to write second opinion notes or counsel's opinions in relation to legal work of lawyers and courts.
- Several members teach special courses for practicing auditors and lawyers.
- Some – from time to time – provide advice to the Karnov Group – the Danish publisher of all Danish laws and judgments including notes and comments.
- One is a member of the Danish auditors' association (FSR) advisory group for cyber security.
- Several members participate in networks with key business professionals.

In these ways, among others, the professional skills of the members of the AAA Group are directly useful in society and business practice beyond the sphere of university research and teaching. This also ensures that research and teaching are firmly anchored in practice.

12.5 Future Plans

This section briefly presents reflections on future plans related to the AAA Group's research activities. Reflections are structured into five mutually dependent issues: a) refining the identity of the AAA Group; b) consolidating and developing the group; c) expanding international cooperation; d) initiating common research projects; and e) developing publishing strategy.

Refining the Identity of the AAA Group:

As the AAA Group is relatively new and small, the group is still in the process of defining a more explicit research profile. This may be challenging, as the various members of the group have quite different competencies, but when viewed in a constructive way, this may ultimately prove an advantage. So far, the group sees the prevailing broad idea as a focus on 'businesses and their advisors, in particular auditors'.

Important features of the common research group identity include the following principles:

- As the research group expands and develops, it is of vital importance to retain and further develop the pioneering spirit that has been a powerful precondition of reaching the current stage.
- Translation of university research into practice is a priority – especially when research represents new and complex elements. In practice, this means, that every academic journal article should preferably be followed by a 'popular' article published, for instance, on LinkedIn or dinŠjura (a free online newsletter provided by Werlauff Publishing).
- The cooperation between the members of the research group must continue to be constructive

and based on some kind of 'apprenticeship principle'.

Consolidating and Developing the Group:

As intake of new PhD students is an important source of enhanced research activity, the research group puts special effort into attracting new talents. One obvious and important group from which to recruit is young graduates on the master's level, and attention must continuously be paid to this pipeline.

A special effort must be made to determine whether it is possible to attract international PhD students, which could also contribute to raising the international profile of the AAA Group. What seems to be a special challenge is hiring full-time researchers within the core themes of our field, such as external accounting and financing.

Expanding International Cooperation:

Some members of the AAA Group have already established international research collaborations. However, the AAA Group as a whole wants to expand international activities and collaborations.

Initiating Common Projects:

Having one or two common research projects underway that are formulated within the group's main research areas of auditing, accounting and advice will strengthen the group. One possibility is to organize a conference day each semester during which external experts and national and international colleagues are invited as key note speakers in relation to a specific conference theme – for instance international accounting standards, auditing principles or the role of the professional advisor. Such activities may also contribute to raising the group's international research profile.

Developing Publishing Strategy:

Because the members of the research group

have very different professional backgrounds and professional focus, the group needs a differentiated publication strategy, although all members keep a strong focus on journals and publishers on the Danish BFI level 1 or level 2 list. One part of the publication strategy is to try to publish more international articles in addition to Danish articles, as this will also support efforts to develop the group's international profile.

In general, ambitions are high within the group and the determination to obtain results is absolutely there – the difficult part is planning and steering – but at the same time, it is crucial to know when to react as new opportunities arise.

12.6 Panel Evaluation

[to be completed during the visit]

Observations

Recommendations





