**SAMEVAL, Self-assessment level 2**

**Faculty of Social Sciences, University of Oslo**

**Panel 6: Economic-administrative research**

The Faculty of Social Sciences at the University of Oslo does not have a Department or organizational unit that is entirely devoted to economic-administrative research. However, the Faculty’s Centre for Technology, Innovation and Culture (TIK) has a research group in innovation studies. Research and teaching activities in innovation studies at TIK study the creation and diffusion of advanced technologies, their economic determinants in private firms and public organizations, and their economic and societal impacts. As such, TIK’s innovation studies’ activities are thematically close and highly relevant to economic-administrative research at large. This document will therefore present a self-assessment of economic-administrative research in the field of innovation studies carried out at the TIK Centre.

**Employment**

1. **Please describe plans for recruitment within the research discipline.**

During the last five years, TIK’s staff in innovation studies has expanded considerably, particularly through a large number of new externally funded research projects. At present, the staff consists of nearly 30 researchers: TIK’s Director, four tenured staff (Professor level; two of which are close to the retirement age), two externally funded senior researchers, one adjunct Professor, five postdocs and about 15 PhD students. The group is one of the main hubs for innovation studies in the country, and it has a strong scientific standing and societal impact.

The group’s large number of younger researchers (PhD, postdoc, and non-tenured researchers) are mostly funded through externally funded research projects. These younger researchers represent an important basis for TIK and other leading research units to recruit new senior academic researchers in the future. Due to a large number of new externally funded projects acquired in the last five years, the number of younger researchers at TIK has increased substantially.

The recent growth of junior staff at TIK is a very positive development. In addition to expanding the Centre’s size, TIK’s innovation studies research has broadened the thematic scope of its research activities in recent years (see section on “scientific quality” below). Innovation studies staff has also become more international. At present, about 30% of the staff is accounted for by foreign researchers. All new positions are announced internationally.

However, the recent expansion of young researchers at TIK has not been followed by an expansion of senior-level tenured positions. These are internally funded through the Faculty’s core grants, and these internal funding is not sufficient to finance new positions at the Associate Professor (or Professor) level. As noted above, TIK’s innovation studies staff has at present only four tenured positions (Professor level), and there are no possibilities to increase this number due to limited core grants from the Faculty.

In summary, TIK’s staff carrying out economic-administrative research in innovation studies does currently present a mismatch: on the one hand, there is an increasing number of junior researchers (in need of supervision) and of externally funded research projects (that require coordination and management); on the other hand, there is only a small and stable core of tenured senior researchers that can carry out these supervision and coordination activities. This mismatch leads to a capacity constraint: TIK’s tenured staff in innovation studies does not have sufficient capacity / time to carry out the activities that TIK’s increasing activity level demands for.

1. **Give an overview in Form 1 of the number of positions that have been announced within the research discipline during the past three years (2014-2016) and the number of qualified applicants (all levels). Include to what extent researchers are recruited from other institutions in Norway or internationally.**

**Form 1: Number of positions that have been announced during the past three year (2014-2016) and the number of *qualified* applicants (all levels).**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Year 2014** |  |  | **Year 2015** |  |  | **Year 2016** |  |
|  | **Positions** | **Total applicants** | **Qualified applicants** | **Positions** | **Total applicants** | **Qualified applicants** | **Positions** | **Total applicants** | **Qualified applicants** |
| Ph.d | **2** | **49** | **4** | **4** | **95** | **7** | **2** | **28** | **4** |
| Post.doc | **1** | **10** | **2** | **1** | **4** | **1** | **2** | **33** | **4** |
| Temporary  researcher | **-** | **-** | **-** | **-** | **-** | **-** | **1** | **6** | **1** |
| Permanent researcher | **-** | **-** | **-** | **1** | **8** | **1** | **-** | **-** | **-** |

1. **If relevant, please describe how the PhD training is organized and to what degree PhD students are included in larger projects within the research discipline.**

TIK has currently 15 PhD students in Innovation Studies. The PhD in Innovation Studies is a track in the Faculty’s PhD programme: <https://www.sv.uio.no/english/research/phd/>. Organization and structure of TIK’s PhD track is therefore based upon the Faculty’s guidelines. At present, ten PhD students in innovation studies are externally funded through research projects that are broadly related to the economic-administrative discipline (see list of these projects in table 3 below).

PhD students in Innovation Studies are offered a variety of courses every year. There is a biennial PhD course in economics of innovation, and specific courses related to projects (one on industrial dynamics in 2016 and one planned for 2017 related to public science and innovation). These courses also attract students from other institutions. The research school NORSI (“Norwegian Research School in Innovation”) is central for other PhD coursework, network building and particular activities (e.g. writing seminar related to “kappe”/expanded introduction; PhD level research conference). Within the international EU-SPRI network there are courses, younger researcher workshops and conferences and opportunities for young personnel exchange. TIK’s innovation group is part of EU-SPRI’s new summer/winter school initiative with a summer school planned for 2018. In addition, TIK organises courses in innovation studies for the Oslo Summer School in Social Sciences (2015: “Innovation in networks”; 2016: “Finance and innovation”; 2017: “Responsible research and innovation”).

1. **Indicate the normal distribution of time between research, teaching and other activities (administrative tasks, project acquisition etc.) for all academic positions and policies for redistribution of tasks between staff.**

According to UiO’s personnel policy, tenured researchers have to divide their working time between research activities (47%) and teaching and administrative activities (53%). TIK has an internal policy (“frikjøp policy”) according to which tenured researchers that are engaged in externally funded research projects can decrease the amount of working time devoted to teaching and administrative activities. In practice, most tenured researchers at TIK are actively engaged in external projects, and this means that the estimated share of working time that they can dedicate to research activities is around 60% on average.

Other researchers in innovation studies (PhD, postdoc, non-tenured researchers) do not have any contractual obligations to work on teaching and administrative activities, and hence work full-time on research. Occasionally, some of the PhD students are invited to contribute to teaching and supervision activities for TIK’s Master program, and their contracts are correspondingly extended.

1. **If relevant, describe the policy for research leave/sabbatical leave for academic staff.**

The policy for research leave/sabbatical leave for academic staff is regulated by the Faculty’s and UiO’s guidelines.

**Scientific quality**

1. **Give a brief overview of the research activities and research groups within the research discipline. Please provide details of the most important contributions to the larger research community over the last 5-10 years. Please include a list of the most important publications resulting from the research in this period (maximum ten publications).**

TIK’s innovation studies group is among the strongest research environments in the field in Norway. Internationally, its ambition is to be among the leading units in its field. These ambitions imply that the group’s researchers are visible in international conferences, key journals and training arenas. TIK’s innovation group is modelled on similar groups found in the UK, the Netherlands, Denmark, Sweden and Germany. There are no sub-groups in TIK’s innovation studies group, although a wide selection of economic-administrative research topics is represented.

Specifically, three main thematic areas are given priority. The first is the economics of innovation, which studies the economic determinants and impacts of innovation and how these differ across countries, regions, sectors and firms. The second is related to systems of innovation, the process of transitions and structural change of these, and the interplay between public policies and private sector innovative strategies – with a special emphasis on natural sources and renewable energy innovations. The third main thematic area is tied to how innovation and research activities are organised in networks and collaborative efforts within specific industries and other settings.

All three thematic areas have a common focus on the creation and diffusion of innovation in firms and public organizations, which explain their relevance for the economic-administrative discipline. More specific characteristics that are common to the three thematic areas are an explicit focus on science and innovation policy, a Schumpeterian/evolutionary perspective on innovation in private firms and public organizations, and the attempt to combine insights from qualitative and quantitative empirical research. With the establishment of the new eight-year OSIRIS research centre, oriented at understanding the preconditions for impact of science, innovation studies research at TIK has recently strengthened its science policy profile significantly.

TIK’s innovation research is primarily intended for an international academic audience, and it is typically published in prestigious academic outlets in the field – such as the top journal in the field of innovation studies, *Research Policy*, among many others. Much of this research has high international visibility and impacts in the academic community (e.g. as measured in terms of citations statistics and other bibliometric indicators).

Some selected examples of important research contributions by TIK’s innovation scholars can be noted. One is the authoritative mapping of the emerging field of innovation studies done by Jan Fagerberg during the last ten years. This research resulted in the publication of the *Oxford Handbook of Innovation* (Fagerberg et al., Oxford University Press, 2005; 1400 + citations in Google Scholar); and later also the special issue in *Research Policy* (2012).

Another research strand has investigated sectoral differences in innovation activities in manufacturing and service industries, and how firms’ innovative activities are shaped by sectoral characteristics and the innovation policy framework (Castellacci, *Research Policy*, 2008; 400 + citations in Google Scholar; and the special issue of *Industrial and Corporate Change* in 2012 by Fagerberg et al.).

Thirdly, several published papers by Gulbrandsen and colleagues have analysed university-industry relations (Gulbrandsen and Smeby, *Research Policy*, 2005; 500 + citations in Google Scholar; and the special issue of *Research Policy* in 2011 edited by Gulbrandsen et al.).

Further, the book “Innovation, Path-Dependency, and Policy” (Fagerberg et al., 2009, Oxford UP) is the central reference for the historical development of the Norwegian innovation system, and it represents a good illustration of TIK’s research on innovation systems, which is currently focusing on the transition towards a renewable energy system.

A more recent strand of studies at TIK is now carrying out research on innovation in the health sector, which lies at the intersection of health and innovation studies. An example of published work in this area is for instance recent research unpacking medical innovation and the role of hospitals (Gulbrandsen et al. 2016, Thune & Mina 2016, special issue in *Research Policy* in 2016).

The following table provides a list of the ten most important publications in innovation studies at TIK during the last ten years (the list is presented in chronological order).

|  |  |  |
| --- | --- | --- |
| **Publications** | **DOI, URL  or filename** | **Indicate pages to be read** |
| 1. Castellacci, F. (2008): “Technological Paradigms, Regimes and Trajectories: Manufacturing and Service Industries in a New Taxonomy of Sectoral Patterns of Innovation”, ***Research Policy***, 37 (6–7): 978–994. | <http://dx.doi.org/10.1016/j.respol.2008.03.011> |  |
| 2. Fagerberg, J. and Srholec, M. (2008): “National Innovation systems, capabilities and economic development”, ***Research Policy***, 37: 1417-1435. | <http://dx.doi.org/10.1016/j.respol.2008.06.003> |  |
| 3. Fagerberg, J. and Verspagen, B. (2009): “Innovation studies -The emerging structure of a new scientific field”, ***Research Policy***, 38: 218-233. | <http://dx.doi.org/10.1016/j.respol.2008.12.006> |  |
| 4. Fagerberg, J., Mowery, D. and Verspagen, B.: *Innovation, Path Dependency and Policy: The Norwegian case*, ***Oxford University Press***. | <https://global.oup.com/academic/product/innovation-path-dependency-and-policy-9780199688470?q=fagerberg&lang=en&cc=it> | 1-30 |
| 5. Clausen, Tommy Høyvarde; Fagerberg, Jan & Gulbrandsen, Magnus (2012): “Mobilizing for change: A study of research units in emerging scientific fields”, ***Research Policy***, 41, 1249- 1261. | <http://dx.doi.org/10.1016/j.respol.2012.03.014> |  |
| 6. Castellacci, F. and Natera, J.M. (2013): “The dynamics of national innovation systems: a panel cointegration analysis of the coevolution between innovative capability and absorptive capacity”, ***Research Policy***, 42 (3): 579–594. | <http://dx.doi.org/10.1016/j.respol.2012.10.006> |  |
| 7. Castellacci, F. (2015): “Institutional Voids or organizational resilience? Business Groups, Innovation and Market Development in Latin America”, ***World Development***, 70: 43–58. | <http://dx.doi.org/10.1016/j.worlddev.2014.12.014> |  |
| 8. Bentley, Peter; Gulbrandsen, Magnus & Kyvik, Svein (2015): “The relationship between basic and applied research in universities”, ***Higher Education***, 70(4): 689- 709. | <http://dx.doi.org/10.1007/s10734-015-9861-2> |  |
| 9. Gulbrandsen, Magnus; Thune, Taran Mari; Borlaug, Siri Brorstad & Hanson, Jens (2015): “Emerging Hybrid Practises In Public–Private Research Centres”, ***Public Administration***, 93(2): 363- 379. | <http://dx.doi.org/10.1111/padm.12140> |  |
| 10. Thune, T., & Mina, A. (2016): “Hospitals as innovators in the health-care system: A literature review and research agenda”, ***Research Policy***, 45(8): 1545-1557. | <http://dx.doi.org/10.1016/j.respol.2016.03.010> |  |

1. **Describe strategies for research development within the discipline, including strategies for scientific publications.**

As noted above, innovation studies research at TIK is hampered by the limited size of its staff (and particularly tenured staff at Professor level). One of the strategies that TIK follows to overcome this limitation is to develop strong links and collaborations with other units in the same and in neighbouring fields of research. Innovation studies represent a highly multidisciplinary and collaborative field. Almost all research activities in this field at TIK involve collaborating with innovation researchers in other countries. Among the most important international research partners are SPRU (Sussex, UK), MIOIR (Manchester, UK), Ingenio (Valencia, Spain), and CIRCLE (Lund, Sweden), among others. The EU-SPRI network is also important; TIK is a member of this network together with the major science and innovation policy oriented research units in Europe (and represented in the executive committee) and host for the planned annual scientific conference in 2021.

The group has also extensive collaboration across disciplinary boundaries, particularly within the area of renewable energy transitions and innovation in life science and medicine. Research partners are within odontology, medicine, technology and natural sciences at the University of Oslo and elsewhere (NTNU, Nofima). The innovation group has a tradition for collaboration with policymakers as well as private industry. There is formal project collaboration with users in the Research Council of Norway (RCN) and various ministries not least through the large-scale project OSIRIS. Current research and user partners in the public and private sector include Telenor, Aker Solution, Petroleum Geo-Services (PGS), the health region South-East, the Norwegian Welfare directorate, Ministry of Science and Education, etc. The innovation group currently has one industry PhD fellow and two public sector PhD candidates.

Regarding the strategy aimed at increasing the quantity and quality of publications, TIK has recently introduced a new publication bonus system to provide researchers with a stronger incentive to publish internationally. In addition, there is a “publication workshop” that is organized once every semester to discuss the staff’s work in progress leading to journal publications. Overall, researchers in the innovation group aim at publishing in relevant, high quality outlets (journals and publishing houses). As noted above, TIK’s innovation group is highly visible in the world’s leading scientific journal in innovation studies, *Research Policy*, for example through co-editing three recent special issues (2011, 2012 and 2016) and in several other articles. The innovation group has steadily increased the number of publication points per capita since 2013 and increased the share of level-2 publications in the Norwegian system in the same period. The group’s working paper series, part of the REPEC/IDEAS international archive, has high visibility, ranking, and a high number of downloads.

1. **Please estimate the primary audience of your scientific publications in Form 2.**

**Form 2: Roughly estimate which audience the results of your scientific publications primarily are intended for (in percentage)**

|  |  |  |
| --- | --- | --- |
|  | **Within the academic discipline(s)** | **Beneficiaries outside the academic community** |
| **National audience** | 0% | 0% |
| **International audience** | 100% | 0% |

1. **Please describe the significance of external research funding to the development of scientific quality within the research discipline.**

TIK’s research in innovation studies is highly dependent upon external funding. If we focus only on R&D expenses, more than 80 per cent of the group’s funding is external, which generates a high working pressure and other challenges. External funding is an essential part of discussions among researchers in the group, and the group has had a number of large-scale and smaller projects from RCN, EU (Horizon2020), OECD and industry in recent years.

The reason for the great and increasing share of external funding is twofold: on the one hand, TIK’s core funding has decreased slightly in real terms every year since 2003, generating a greater need to acquire external funding; on the other hand, most research themes in TIK’s fields of expertise have great societal and policy relevance, so that there is high demand for projects in this field both in Norway and at the EU level. As illustrated in table 3 below, many of the externally funded research projects on innovation are closely related to some of the priority areas identified in the long-term plan (LTP) for research and higher education 2015–2024. For both of these reasons, it is natural to carry out much of the centre’s research in innovation studies on a project basis, and with the objective of combining high academic quality with high societal relevance.

**Gender perspectives**

1. **Describe the extent to which gender perspectives are integrated in the research within the discipline, providing examples of relevant projects and/or publications.**

The field of innovation studies does not present gender issues or unbalances. TIK’s staff in innovation studies has at present a quite balanced representation of male and female researchers (ca. 50% each). The Centre follows strictly the Faculty’s guidelines on gender representation. In particular, all recruitment processes must ensure representation of both genders in scientific committees. Further, female Associate Professors that seek to qualify for the Professor level can benefit of a special Faculty’s support scheme in the period before the application. Last but not least, according to the Faculty’s gender policy, in all Departments adjunct Professors (Professor II) have always to maintain a balance between female and male researchers.

**Interplay between research and education**

1. **Indicate the linkages between the research within the panels of the evaluation and the study programmes offered by the institution. Use the enclosed excel file to indicate the study programmes based on the teaching activities of the researchers to be evaluated by the panel. If applicable, list research groups that are linked with the study programmes.**

Innovation studies researchers at TIK regularly teach and supervise students at the Centre’s two master programmes: Technology, Innovation and Knowledge (TIK, 2-year Master degree), and Society, Science and Technology in Europe (ESST, 1,5-year Master degree). See enclosed Excel-file “Overview of study programmes”. These Master programs enrol 30 new students every year, which are selected from a total number of around 400 applicants.

The structure and content of these programs is available at the web link: <http://www.uio.no/studier/program/tik-master/oppbygging/>. After taking a first introduction course in innovation, science and technology studies in the first semester, the students must choose a specialization during the second semester. Around tree out of four Master students, usually choose innovation as their specialisation, where TIK’s researchers in innovation studies teach the specialization courses, and supervise the students for their Master theses.

1. **To what extent are students involved in staff research? Describe how and on what levels.**

Master students are involved in staff research in two ways. First, students are given the possibility to write their Master theses on topics that are related to some of the ongoing projects at TIK. This greatly facilitates the students’ work in defining a topic of interest, an original research question, and get access to data and documents of relevance with the support of the project team and framework. Second, a few selected students are invited to work on a part-time basis on some of TIK’s externally funded projects. Every year, about 10% of TIK’s Master students work at the Centre as part-time research assistants, at the same time as they work on their Master theses.

1. **Indicate the main challenges for optimizing the interplay of education and research within the discipline and the measures taken to meet these challenges.**

Until recently, a challenge for optimizing the interplay of education and research within TIK’s Master programs was represented by the fact that the Centre’s Master students did not have to attend courses in research methodology. The lack of strong methodological foundations hampered the possibility to integrate the students in the Centre’s research projects, and later employ them as PhD students. However, this challenge has seriously been faced and overcome in recent years. TIK’s Master students are now offered a systematic introduction to research methods. They first have to attend a general introduction to research methods during the first semester, and then a more specialized course (in either qualitative or quantitative methods) during the second semester.

**Societal relevance**

1. **Please indicate the relevance of the research within the discipline for the thematic priorities set out in Norwegian Government’s** [**Long-Term Plan for Research and Higher Education**](https://www.regjeringen.no/en/topics/research/innsiktsartikler/langtidsplan-for-forsking-og-hogare-utdanning/id2353317/) **or list other relevant policy documents in Form 3.**

As noted above, TIK’s research in innovation studies relies to a large extent on externally funded research projects. Most of the external projects are funded by Norwegian agencies such as the Research Council of Norway and the Ministry of Education and Research. A natural consequence of this is that TIK’s research projects in innovation studies are designed and developed in close collaboration with these agencies and related academic and user partners, thus ensuring their societal relevance.

Specifically, all three main thematic areas that are prioritized at TIK within innovation studies have a number of ongoing externally funded projects that explicitly address some of the priority areas of the “long-term plan for research and higher education”. As noted in table 3 below, for instance, TIK has two large ongoing projects / centres related to the priority area “Public sector renewal, better and more effective welfare”; two research projects that investigate themes related to “Innovative and adaptable industry”, and six ongoing projects / centres related to the priority area “Climate, environment and clean energy”.

**Table 3: Research projects addressing priority areas of the LTP**

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| --- | --- | --- | --- |
| **Institution** | **Panel** | **Priority area of the Long-term plan for research and higher education** | **Research project (please include title of project, size in terms of researchers and budget, time frame)** |
| TIK Centre, UiO | Economic-administrative research | Public sector renewal, better and more effective welfare | “Oslo Institute for Research on the Impact of Science”. |
| TIK Centre, UiO | Economic-administrative research | Public sector renewal, better and more effective welfare | “Responsible Innovation and Happiness: A New Approach to the Effects of ICTs”. |
| TIK Centre, UiO | Economic-administrative research | Innovative and adaptable industry | “Investigating the Impact of the Innovation Union”. |
| TIK Centre, UiO | Economic-administrative research | Innovative and adaptable industry | “Innovation dynamics within a multinational company: A survey-based study of Telenor”. |
| TIK Centre, UiO | Economic-administrative research | Climate, environment and clean energy | “Centre for Sustainable Energy Studies”. |
| TIK Centre, UiO | Economic-administrative research | Climate, environment and clean energy | “Europeanization of Energy-Technological Innovation Systems”. |
| TIK Centre, UiO | Economic-administrative research | Climate, environment and clean energy | “Integration of Power Transmission Grids”. |
| TIK Centre, UiO | Economic-administrative research | Climate, environment and clean energy | “Research Centre for Sustainable Solar Cell Technology”. |
| TIK Centre, UiO | Economic-administrative research | Climate, environment and clean energy | “Conditions for growth in renewable energy industries”. |
| TIK Centre, UiO | Economic-administrative research | Climate, environment and clean energy | “Greening the Fleet - Sustainability Transitions in the Maritime Shipping Sector”. |

1. **Describe strategies for dissemination, user-involvement and knowledge exchange, identifying any particular obstacles to achieving these aims within the discipline.**

Since much of TIK’s research in innovation studies is project-based and externally funded, it is natural for it to have a strong component of dissemination and user-involvement. In fact, most funding programmes to which TIK participates (such as those of the Research Council of Norway, or the EU Horizon 2020 program) requires applicants to make specific and feasible plans of dissemination and of involvement of other academic partners, stakeholders, policy makers and/or industry users. As such, all research projects at TIK, such as those noted in the table above, have specific dissemination and user involvement plans, which are regularly monitored and followed up by the funding agencies that manage these projects.

For these reasons, TIK’s innovation studies group has a strong external collaboration profile with non-academic partners. Group members make a large number of public/non-academic presentations every year and publish occasional popular science articles. There is formal project collaboration with policymakers in the Research Council of Norway and various ministries and with private firms. Despite its small size TIK’s innovation group has been one of few units at the Faculty with formalised co-operation with industry (e.g. the Telenor-TIK project collaborations ongoing since 2013). Current research and user partners in the public and private sector include also partners such as Aker Solution, Petroleum Geo-Services (PGS), the health region South-East, the Norwegian Welfare directorate, and the Ministry of Science and Education. The large-scale centre OSIRIS (the Oslo Institute for Research on the Impact of Science) is particularly important in the group’s external collaboration. OSIRIS, funded for eight years as a centre of excellence by the Research Council of Norway, involves significant collaboration with policy actors in Norway and other countries.

1. **Please provide a list of ten important examples of dissemination/knowledge exchange activities of the research unit from the last 5-10 years.**

**List of 10 most important dissemination and knowledge exchange results the last 5-10 years (listed in chronological order)**

|  |  |  |
| --- | --- | --- |
| **Title** | **Category\*** | **Reference of sources** |
| 1. Et åpnere forskningssystem | Report | Fagerberg ekspertutvalg, NOU 2011. |
| 2. Rik på natur. Innovasjon i en ressursbasert kunnskapsøkonomi | Report | Wicken, Olav; Hanson, Jens, Fagbokforlaget 2008. |
| 3. Samtidshistoriske perspektiver | Book | Gulbrandsen, Magnus et alia, Unipub forlag 2011. |
| 4. Energirikdommens paradokser: Innovasjon som klimapolitikk og næringsutvikling | Book | Hanson, Jens; Kasa, Sjur; Wicken, Olav, Universitetsforlaget 2011. |
| 5. Mer FoU i Telenor enn antatt | Media contribution | Hildrum, Jarle Moss; Gulbrandsen, Magnus. Forskningspolitikk 2012. |
| 6. Dynamics of cooperation in research and innovation partnerships | Conference presentation | Thune, Taran Mari; Gulbrandsen, Magnus, R&D Management conference, 2012. |
| 7. The Norwegian Paradox | Chapter in report | Castellacci, Fulvio, in "Innovasjon på norsk", NHD report, 2012. |
| 8. Forskere deler sin kunnskap | Media contribution | Gulbrandsen, Magnus, Forskningspolitikk 2014. |
| 9. The Impact and Future of Arts and Humanities Research | Book | Gulbrandsen, Magnus; Benneworth, Paul; Hazelkorn, Ellen. Palgrave Macmillan 2016. |
| 10. Ikke-akademisk arbeidserfaring: bra for relevans, ikke for kvalitet? | Media contribution | Gulbrandsen, Magnus; Thune, Taran Mari. Forskningspolitikk 2016. |

## Impact case study

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| **Name of impact case: TelenorR** |
| **Summary of the impact:**  Following empirical research in partnership with TIK’s innovation group and other actors, the company has shifted its innovation strategy, strengthened the assessment of innovation results and capabilities in the follow-up of individual personnel, improved its innovation management and the ranking of this aspect in the Dow Jones Sustainability Index, and committed to new R&D and innovation partnerships with an emphasis on how Telenor can be an engine for innovation and entrepreneurship in Norway. |
| **Description of the research underpinning the impact**:  Professor Magnus Gulbrandsen initiated TIK’s innovation group’s first collaboration project with Telenor, which started early 2012 and has been ongoing since. Other research units in Norway (e.g. the Norwegian School of Business in Bergen) and abroad (e.g. London School of Economics) have been involved as well. For TIK, Telenor proved an interesting empirical arena for theories and controversies about innovation. A long-standing debate in innovation has been about the typology and definition of innovation, especially whether there is a fundamental distinction between manufacturing and services. This is related to discussions about the most widely used data source for innovation, the Community Innovation Survey (CIS) and if this is appropriate for all industries. In addition, there are debates about the nature of innovation in digital settings, and more generally whether there is a tension between central aspects of organisational structure/culture and the ability to innovate.  The first empirical work was to develop a new measurement tool for innovation in a digital service company like Telenor. Using literature on service innovation with newer perspectives on “platforms” and “infrastructures” arising from studies of digital innovation, a detailed instrument was developed. Data was gathered from all business units in Telenor (including in different parts of Europe and Asia) and later presented in various meetings in the company (including a leadership seminar with the CEO), in the media and at scientific conferences. TIK’s postdoc Jarle Hildrum (now in Telenor) was the most important researcher here.  The second empirical work was an organisational culture survey where TIK contributed with state-of-the-art survey tools and theoretical perspectives to develop a questionnaire that would fit the setting of Telenor. The survey received close to 20,000 responses from people in business units all over the world, gaining a unique insight into the culture of a digital multinational. Results showed that the cultural profile was astonishingly similar across business units, e.g. the high weight on customer orientation and integrity and the relatively low weight on innovation in locations as different as Norway, Serbia and Bangladesh. TIK Director Fulvio Castellacci has been central in analysing the survey data.  In addition to these large-scale (and still ongoing) empirical projects, the TIK-Telenor collaboration has involved a number of joint seminars, involvement of students and other activities. The research collaboration continues, now focusing more on the evolutionary transition perspective (the disruptive shift in the telecom industry) and on exploiting the data sources (culture survey and innovation survey) for scientific publication. |
| **Details of the impact:**  When Telenor redefined itself as a service company in the early 2000s, the status of research, development (R&D) and innovation was unclear. These activities went through a large number of reorganisations, and the company was heavily criticised for a lack of focus on research and innovation by various actors including the Ownership Department of the Ministry of Trade and Industry. Telenor also scored at the bottom of the industry in the innovation management section of the Dow Jones Sustainability Index (DJSI), an influential series of indices about stock exchange listed companies.  TIK’s first measurement project showed that the actual innovation expenditure in Telenor was much higher than what was officially reported in the research and CIS surveys. This had a powerful symbolic (and perhaps to some extent political) impact on Telenor, but it also led to changes in data gathering practices and innovation management that moved Telenor up as an “industry leader” in the DJSI. The company now does the annual innovation measurement exercise itself. Several people in Telenor, including Hanne-Stine Hallingby, have been essential in the implementation and follow-up here.  More direct impact can be seen from the culture survey, which clearly demonstrated that innovation is emphasised less in the company than all other aspects that were defined as important. As such the research identified and articulated a problem that was recognised also by many people in Telenor. This problem was discussed at a board meeting where the (former) CEO was given 10 months to improve the innovation work in the company, leading to new strategies, new personnel management systems and more experiments with changes in organisational structure. This work has been strengthened with the new CEO. The research has also been influential in Telenor’s expanded role in the Norwegian innovation system where the company increases its partnership e.g. with incubators and accelerators and gets involved in large-scale initiatives like Toppindustrisenteret together with many research organisations and firms. |
| **References to the research (scientific publications):**  Castellacci, F., Gulbrandsen, M., Hildrum, J., Martinkenaite, E., Simensen, E. & Tveito, V. (2016), How Does Innovation Differ across Business Functions? Employee-level Analysis of a Multinational Company. TIK Working Papers on Innovation Studies, 20160321 (found here: <https://ideas.repec.org/p/tik/inowpp/20160321.html>; under revision for journal publication).  Gulbrandsen , M. & Hildrum, J. (2015), Measuring and reporting R&D and innovation costs in multiunit service firms: a new approach. Presented at the STI Indicator Conference, Lugano, under revision for journal publication. |
| **References to sources to corroborate the claims made about the impact:**  <http://www.sv.uio.no/tik/om/aktuelt/aktuelle-saker/2012/undervurderer-nyskapningen.html>  <http://www.innovasjonnorge.no/no/Nyheter/--innovasjon-kan-ikke-outsources/>  There is also a Telenor internal report on the measurement approach. |
| **If relevant: External references (external users or others who have witnessed the impact and could be contacted to corroborate the claims made in the reported research cases):**  Jarle Hildrum, Vice President, Telenor Research (and others in Telenor). |