



# The European Cohesion Policy and Structural Funds in Sparsely Populated Areas: A Case Study of the University of Oulu

**Eija-Riita Niinikoski**

*University of Oulu, Finland*

**Laura Kelhä**

*University of Oulu, Finland*

**Ville Isoherranen**

*University of Oulu, Finland*

The regional policy is one of the European Union's main investment policies to support regional equality and convergence, cohesion policy being one of its key policy areas and aiming to support job creation, business competitiveness, economic growth, sustainable development and citizens' quality of life. As education, research and innovation are amongst the main objectives of these policies, universities play an important role in regional development, research and education being their main tasks, while interaction with society the third one. The aim of this study is to examine how universities participate in cohesion policy and regional development by utilising structural funds in fulfilling their third task (RQ1) and how do the closest stakeholder groups view the regional role of the university (RQ2). A single case study was conducted having the Oulu Southern Institute (OSI) of the University of Oulu as the case study unit. The data was collected using an adapted Delphi method in a workshop with OSI staff, from an online questionnaire to OSI's closest stakeholders and from in-depth interviews to examine the themes that arose in the questionnaire answers. In the findings, the importance of the university unit for regional development is clearly evident. Structural funds are the main tools for universities to stimulate development, the university was seen as a crucial actor, knowledge creator, collaboration partner and regional developer, as well as a fundamental part of the regional innovation system. According to the findings, the university should participate in recommending development areas for cohesion policy guidelines for the next structural fund period.

*Keywords:* European cohesion policy, regional development, structural funds, sparsely populated areas, third task of universities

## Introduction

Regional policy is one of the European Union's (EU) main investment policies and arises from EU's key ideologies, which highlight equality and joint

efforts to develop the member states. With respect to regional equality and convergence, the EU cohesion policy is a key policy area. This policy aims to support job creation, business competitiveness, economic growth, sustainable development and citizens' quality of life (European Commission, 2016). This policy is the second biggest policy field in the EU and also represents a significant portion of the budget. Concretely, cohesion and structural funds comprise almost a third of the total EU budget. In the current programme period of 2014–2020, budget allocation was 351.8 billion euros (European Commission, 2016). The cohesion policy is applied through member states and their intermediate authorities and projects, often including regional actors from both the public and private sectors.

EU's cohesion policy strongly supports the development of research, technology, education and training (European Commission, 2015a). It has set 11 thematic objectives for the 2014–2020 programme period, and two of those objectives directly link with educational and research institutions such as universities, which are listed as follows: strengthening research, technological development and innovation (objective 1) and investing in education, training and lifelong learning (objective 10) (European Commission, 2015a). Both the European regional development fund (ERDF) and the European Social Fund (ESF) support these objectives.

As education, research and innovation are amongst the main objectives of the EU's cohesion and regional policy, educational and research institutions play an important corresponding role in regional development. The way in which universities are participating in regional development varies and has evolved greatly over time. The roles of universities can be viewed from different perspectives, but their main functions are defined by law. For example, Finnish law states that the main mission of universities is to promote free research and academic and artistic education, to provide higher education based on research and to educate students to serve their country and humanity. In carrying out their mission, universities must promote lifelong learning, interact with the surrounding society and promote the impact of research findings and artistic activities on society ('Yliopistolaki,' 2009). Research and education are seen as the main tasks and the interaction with the society as the third task of the university. Within these statutory tasks, universities can adopt different roles in areas related to these tasks.

The regional role of universities is often linked to ongoing discussions about universities' 'third task,' also called 'third mission' or 'third stream' (Laredo, 2007; Business/Higher Education Round Table, 2006). May and Perry (2006) note that it is not enough for universities to simply produce knowledge, but universities must actively transfer that knowledge to industry, user and community groups. In summary, the 'third mission' relates to

the interactions between a university and the rest of society (Molas-Gallart, Salter, Patel, Scott, & Duran, 2002, article 4). However, the nature of this interaction and its impact varies amongst different universities.

After joining the European Union in 1995, the European cohesion policy became a core of Finnish regional development and regional policy (Jauhiainen & Niemenmaa, 2006). Universities and other education actors are key players in regional development, especially in northern, sparsely populated areas.

Our aim was to examine how universities participate in cohesion policy and regional development and, in particular, to study how universities utilise structural funds in fulfilling their 'third task.' The research questions are (1) how universities participate in cohesion policy and regional development by utilising structural funds in fulfilling their 'third task,' and (2) how do the closest stakeholder groups view the regional role of the university. For the purposes of this study a single case study was conducted examining Oulu Southern Institute (OSI), a unit of the University of Oulu, as the case in the 2007–2013 structural fund period. The data was collected using an adapted Delphi method in a workshop with OSI staff, from an online questionnaire to OSI's closest stakeholders and from in-depth interviews to examine the themes that arose in the answers. The results of this study may be effectively used by other universities to focus their regional actions and utilisation of structural funds. In addition, other regional actors can use the results to support or to deepen their collaboration with universities in sparsely populated areas.

This article is structured as follows: literature review enlightens universities as regional actors and cohesion policy implementers. Subsequently, the methodology is outlined and the results of the case study are presented. The discussion summarizes the main points and suggests some implications.

## Literature Review

Uyarra (2010) identified five models for universities from the scientific literature. She also examined how the university is perceived in these models and the kind of impact that universities have at the regional level. Uyarra (2010) showcases the university as a (1) knowledge factory, (2) relational actor, (3) entrepreneur, (4) systemic actor and (5) regionally engaged actor.

When a university is seen as a 'knowledge factory,' its regional impact comes from creating and transferring knowledge and educating citizens, thus producing skilled labour for regions. A related perspective in which the university is conceptualised as a knowledge accumulator dates back to medieval universities such as Oxford and Cambridge in the UK (Youtie & Shapira, 2008). Back then, universities were separated from the rest

of the society, whereas universities today often work closely with different stakeholder groups.

Universities may also be seen as boosters of regional economies and certainly have undisputable effects on regional competitiveness. In the scientific literature, the economic impact of universities is largely examined in terms of the 'relational role' and the 'entrepreneurial role' of universities (Uyarra, 2010). The relational role acknowledges universities as partners of industry and supposes different forms of cooperation between universities and other actors. The economic slowdown of the 1980s created new possibilities for universities to raise extra funding since public financial support was stagnant (Geiger & Sá, 2008). Many factors are influential in the success of these partnerships, as several studies have shown, for example, that companies' ability to cooperate with universities depends on companies' age, size, research intensity, openness and sector in which the company is operating (Cohen, Nelson, & Walsh; 2002; Schartinger, 2002; Laursen & Salter, 2004).

In their study, Laursen and Salter (2004) examined different factors that would explain how and why firms take advantage of university functions in their innovation processes. As a conclusion, they note that firms utilise universities in distinct ways. The same results have also been shown elsewhere (D'Este & Patel, 2007; Arvanitis, Kubli, & Woerter, 2008; Mowery & Ziedonis, 2015). Cohen et al. (2002) noted that up to 60% of industrial research and development (R&D) laboratories utilise university research in their innovation processes. According to Cohen et al. (2002), larger companies are more likely to utilise university applications than small- and medium-sized enterprises (SME). The data collected by D'Este and Patel (2007) clearly showed that over 40% of university researchers have been in cooperation with firms at some level. In particular, small firms may require more routine services and consultancy, which are more likely to be sourced from their local university (Siegel, Wright, & Lockett, 2007). When universities relate and cooperate with firms, cooperation and knowledge transfer no longer occurs in an institutional or policy vacuum (Uyarra, 2010). Even so, every region and university has its own specific political and institutional structures, and the interactions between different actors cannot be generalised.

Meanwhile, the literature concerning the entrepreneurial university views the university in a commercial role, in which one of its main functions is to strategically commercialise research results, often via technology transfer offices. This connects directly to immaterial property rights and their interaction with traditional academic research (Uyarra, 2010). In the 1990s and early 2000s, university technology transfer and commercialisation processes began to be rationalised and institutionalised (Geiger & Sá, 2008;

Etzkowitz, Webster, Gebhardt, & Cantisano Terra, 2000). Since then, this parameter has become popular for studying the impact of a university (Bramwell & Wolfe, 2008). Because universities and companies might use 'different languages' when doing business with each other, so-called intermediary organisations can provide an interface for interaction. Also, regional development authorities might have significant roles when it comes to starting or boosting university-company cooperation (Siegel et al., 2007).

Most importantly, in an entrepreneurial university, science represents a means of tackling businesses' problems, and commercialisation of research results is one of the main goals. In addition to universities' internal need for change in order to orient themselves toward these goals, other actors have also demanded that universities participate more actively in different projects, perform outsourced research with the business sector or cooperate with public sector actors (Tijssen, 2006). According to Tijssen (2006), leading universities often work closely with different actors such as contract researchers. By consulting their client base and other R&D activities, universities may obtain extra funding for research and also maintain and strengthen their strategic position in networks and innovation systems. In addition to technology transfer offices, different regional authorities have tried to accelerate knowledge transfer and the formation of technology clusters in regions by setting up science parks.

However, in academia, there have been concerns that the commercialisation of research might harm basic research and its quality. Also, some companies have expressed their fears about universities being in competition with the business sector and have argued that universities should focus on business consulting activities (Etzkowitz et al., 2000). As academic entrepreneurialism has become more widespread, universities are forced to re-evaluate their strategies and arrangements, especially with respect to the kind of cooperation they are pursuing and how cooperation is being promoted (Siegel et al., 2007). Siegel et al. (2007) suggest that universities should target their commercialisation processes to involve specific sectors at the local level rather than trying to offer a wide range of services to all sectors (i.e. smart specialisation).

Following the 1990s, universities have increasingly been studied in the context of innovation systems. The perspective of innovation systems has been widely recognised in Finland, as Finland was one of the first countries to officially incorporate the concept of innovation within science and technology policy in the 1990s (Miettinen, 2002). According to Coenen (2007), the enhanced role of the public sector in creating regional advantages has highlighted the importance of universities in regional innovation systems. Meanwhile, according to Edquist (2005), an innovation system includes all important economic, organisational, institutional and other kinds of ac-

tors that have an impact on the creation, transfer and use of new innovations. Innovation systems conceptualise innovation as a collective process, wherein regional innovation stems from locally and institutionally supported networks.

In this regard, universities are crucial when it comes to creating and transferring new knowledge and are one of the key actors in regional networks (and also in national and sectoral networks). Thus, their impact on innovation systems can be significant. Regional innovation systems place universities as important generators of research for large spin-off companies but also as a support system for regional clusters, different supply chains and, especially, small- and medium-sized enterprises (Uyarra, 2010). Innovation systems are often linked to the 'triple helix' approach (Etzkowitz & Leydesdorff, 2000), which portrays the relationship between universities, businesses and the public sector. The triple helix is based on the blurring boundaries between the public and private sector, technology and science and universities and industry. Notably, universities are adopting roles that were previously associated with other actors (Etzkowitz & Leydesdorff, 2000). From this perspective, the regional impact is determined by the effectiveness of the triple helix.

There are plenty of success stories regarding universities and regional innovation. These successes are unable to be widely generalised since universities have different regional roles; thus, their impact on regions and economic development vary. In addition, regional innovation systems are structured differently, and one regions' success might not be applicable to other regions (Tödtling & Trippl, 2005). The regional impact of a university from the perspective of regional innovation systems results from the cooperation between a university with regional actors and policy formation as well as a university's ability to mobilise key stakeholder groups for innovation (Uyarra, 2010).

Lately, and especially during the 2000s, universities have been seen as a wider part of society – working closely with different networks, sectors and actors. In this sense, academics and politics have referred to the 'third mission' of universities. Rather than considering knowledge transfer processes and strategies to valorise existing university research and poise it for regional growth, this focus is on 'regional needs' and the adaptive responses of universities to meeting these needs (Uyarra, 2010). In this line of thought, universities should take part in different regional committees and networks as equal partners in order to share and learn information. In their categorisation, Youtie and Shapira (2008) considered that current 'knowledge hub universities' are actively embracing boundary-spanning roles in order to work with and bring together different stakeholder groups. This responsive role implies a greater alignment between different

university functions and regional development trajectories. Instead of undertaking a separate regional or 'third mission' alongside the traditional missions of teaching and research, the regional focus becomes embedded and integrated in all key university functions: promoting social inclusion and mobility, providing a base for skill development and stimulating innovation through basic scientific research (Uyarra, 2010).

A key driver of this policy shift at the EU level is the provision of funding to different regions through structural funds that require universities to have a greater regional focus and economic engagement and operate in a multi-level partnership mode. Participation in different regional development projects is one feature of an engaged university. Finnish universities and, in particular, universities in northern Finland have traditionally and actively participated in programme-based regional development. Many universities have actively sought out funding from structural funds and other financial instruments such as Horizon 2020. In the Oulu region, the University of Oulu was the single most active project implementer of the ERDF in the 2007–2013 programme period (Kelhä, 2014) and of the ERDF objective 2, which promotes regional innovation.

According to Boucher, Conway, and Van Der Meer (2003), the most regionally engaged universities are 'peripheral universities,' which, in most cases, are the single players in their regions. They are significant actors in the production of knowledge and the generation of economic impacts. Also, these universities were mentioned as the most active type of university in regional politics and decision-making processes. In most cases, they utilise different financial instruments, for example EU structural funds, and often in cooperation with different actors and projects, by which they participate in regional development.

Evaluation plays a fundamental role in structural fund programmes. They are made from different perspectives and at different points of the programming cycle (beforehand to verify targets, mid-project to evaluate the need for adjustments and post-project to assess the outcomes) (Bachtler & Wren, 2006). The evaluation process involves individual project evaluations up to programme-based evaluations that constitute the whole EU. Even so, evaluation and monitoring practices vary across the EU Member States and to some degree amongst regions of one Member State (Armstrong & Wells, 2006).

Current evaluation methods range from those that are 'bottom-up,' survey-based assessments of project and beneficiary outcomes to those that are 'top-down,' input-output models of aggregate programme impacts as well as process studies of structural fund implementation (Bachtler & Wren, 2006). Ederveen, de Groot, and Nahuis (2006) divided research on structural funds into three main groups: (1) simulation models, (2)

case studies and (3) econometric models (Rodríguez-Pose & Fratesi, 2004; Dall'erba & Le Gallo, 2008; Mohl & Hagen, 2010). The commonalities of these study methods is their aim to understand the impact of interventions stemming from extra funding for different regions.

The results of such evaluations in the scientific literature vary. One study showed that structural funds do not have a positive effect on regions or development (Cappellen, Castellacci, Fagerberg, & Verspagen, 2003), and, similarly, another found a lack of resulting development, or at least statistically significant development (Mohl & Hagen, 2010). Others have questioned the impact of funds, and some have even claimed that the results might be negative (Mohl & Hagen, 2010).

Because of these controversial results of the impact of EU cohesion policy and the variation of methodologies used for evaluation, EU cohesion policy has faced criticism and is currently under scientific and political debate. Batterbury (2006) noted that since the evaluation process has been decentralised to Member States, the evaluation of cohesion policy relies on the presence of a pre-existing evaluation culture and related skill base in the regions. She also noted that obstacles to effective evaluation arise from the lack of data comparability, rigidity of time frames and a focus on performance approaches.

Furthermore, it may be challenging to grasp the actual influence of a certain project or programme due to the multiple factors that influence outcomes. As previously mentioned, cohesion policy does not occur in a vacuum, considering the following:

- There are many policies and additional factors (social, cultural, economic and institutional) that influence regions' economic performance (Rodríguez-Pose & Fratesi, 2004).
- Regions also have specific features and developmental needs.
- The national and regional political climate and history affect project work and implementation. Even today, political parties and agendas have an effect on the distribution of structural funds and the projects that are being funded.

In this respect, Farole, Rodríguez-Pose, and Storper (2011) suggested that instead of trying to implement a 'one-size-fits-all' model to every region, a highly tailored set of interventions should be designed and implemented to address specific challenges in different regional contexts. Such a set could provide for a more accurate regional evaluation of the impact of structural funds or at least provide a valuable evaluation framework for regional authorities.

After conducting a literature survey, a framework was built using Uyarra's (2010) categorisation, which was slightly modified for the context of the

**Table 1** The Impact of the University at the Regional Level

Category	Knowledge creator	Collaboration partner	Entrepreneurial university	Member of innovation system	Regional developer
Impact on society	Creating high level academic knowledge; knowledge transfer.	Exchange of knowledge; creating new linkages.	Role of the university in business growth and commercialisation of research results.	Activity in networks; spanning boundaries.	Creating social impact; participating in development.
Main concepts	Knowledge spillover; added value to firms; tacit knowledge; cognitive proximity.	Transfer of knowledge and technology; university-industry collaboration; enterprises' capability to exploit results.	Commercialising science; research collaboration; knowledge transfer offices; industry parks; transaction of intellectual property rights.	National, regional and sectoral innovation system; ecosystem of innovations.	Regional collaboration; networks; projects.
Indicators	Publications; degrees; research, development & innovation (RDI) indicators.	Changes in enterprises of the region.	Patents; licenses; start-ups; spin offs.	Success stories; interest group feedback; networks.	Projects; interest group feedback; networks.

**Notes** Modified from Uyarra (2010).

present study wherein universities as are conceptualised as regional actors and cohesion policy implementers (Table 1).

## Method

In scientific literature, the roles and functions of universities are discussed from different perspectives. Universities have been connected, for example, to the knowledge economy, regional competitiveness and economic development. To examine the role of universities as regional actors and cohesion policy implementers, we conducted a literature survey and created a framework to analyse our case study unit.

The case study data were collected using an adapted Delphi method in a workshop with OSI staff, from an online questionnaire to OSI's closest stakeholders and from in-depth interviews to examine in greater depth

the themes that arose in the questionnaire answers. The Delphi method is based on the expertise and know-how of people that are closely connected to the study subject. These experts are believed to have the adequate knowledge and ability to evaluate future prospects with respect to a specific theme or subject (Kuusi, 2002). Delphi is a versatile study method, and different types of Delphi methods have been identified: the classical Delphi, policy Delphi and decision Delphi (Hanafin, 2004). In our study, the Delphi method is used in two ways: first, to get an overall picture of the development of OSI and to gain feedback from its closest stakeholders, and, second, to uncover developmental needs in order to provide solutions and an overall scenario of OSI's future.

In this study, the group of experts consisted of the closest stakeholder groups of OSI. According to Linstone and Turoff (2011), the use of the Delphi method will be even more popular in the future amongst different organisations, particularly as the era of the internet enables greater accessibility to large study groups. The Delphi method is best suited for studying values and for bringing new perspectives and ideas into planning and decision-making processes. The use of the Delphi method can be also justified if the research problem is vague or if a single analytical research method would not provide the required results. The Delphi method is particularly useful for evaluating long-term societal or technological changes, evaluating different programmes or objectives and supporting decision-making processes (Kaivo-oja & Kuusi, 1997). Traditionally, the Delphi method tries to find consensus, but, in this study, it was used to identify controversies and differing perspectives in order to better inform the work of OSI in the future.

The data for this study were collected in three ways, as mentioned above. The first phase of this study started in December 2014 with a workshop organised for OSI staff. The purpose of the workshop was to present an impact analysis study and to start an evaluation process based on the self-assessments of OSI staff. The workshop was conducted around four main discussion themes: (1) the regional impact of OSI, (2) recruitment of students to the University of Oulu, (3) collaboration with the business sector and (4) how regional impact can be measured. These themes worked as starter topics for the whole study and created a knowledge base for the following phases.

After the workshop, an online questionnaire was created and sent to OSI's closest stakeholder groups of the southern Oulu area. The used stakeholder model closely imitates and applies the Freeman (2010) stakeholder model. The respondents represented municipalities, educational and research institutions, local companies, regional financiers and business development centres in southern Oulu. The main purpose for the questionnaire was to examine the impact of OSI in different subthemes and its role

as a knowledge creator, collaboration partner, member of innovation systems and regional developer, based on the created framework.

Finally, in-depth interviews were conducted during spring 2015. In total, 18 interviews were conducted, lasting between 30–90 minutes. The purpose of the interviews was to deepen the themes that arose from the questionnaire answers. The themes discussed in the interviews were (1) OSI as a regional actor, (2) research, education and development projects, (3) success stories, (4) visibility and publicity, and (5) future developmental needs. Both the questionnaire and interview data were analysed using content analysis.

In this context, the purpose of university evaluation was to assess the university's ability to affect surrounding areas and to work in coordination with different actors that have close ties to the university. Even though stakeholder evaluation is not a key evaluation theme in European cohesion policy, some have argued that involving local communities is an essential aspect of the evaluation process (Batterbury, 2006). Therefore, the outcome of stakeholder interviews and questionnaires are useful for evaluating OSI as a regional actor. This is further justified because the universities' 'third task' (ability to impact society) is strictly connected to a university's ability to impact its surrounding environment, including companies and other actors. Moreover, feedback from stakeholder groups is important to analyse given that OSI is an active structural fund utiliser and that stakeholder groups are, in most cases, the target groups of different measures promoted by university projects.

## Results

Universities have become increasingly active in society and regional development. The role of a university can be viewed from many perspectives, and, as may be reasonably argued, the regional impact of a university is often difficult to evaluate.

The Oulu Southern Institute (OSI) is a regional unit of the University of Oulu. In terms of regional development, the institute contributes significant academic research and fosters development activities in the sub-region of the southern part of northern Ostrobothnia in northern Finland. The OSI was established in 2000 based on the desire of the sub-regions in the area to have a strong science-based actor to apply, coordinate and implement development projects in the region.

The strategic lines of action of OSI focus on the research and development of future manufacturing technologies, micro-entrepreneurship and regional development. The institute participates in the development of enterprises and collaborates on joint projects with education and development organisations as well as with municipalities, sub-regions and enterprises.

The development projects are mainly funded by European Union structural funds. Thus, OSI has a broad national and international cooperation network.

OSI was described in an extremely positive tone by stakeholders. Collaboration between OSI and key stakeholder groups occurred through projects, educational collaborations and joint work in different networks. Companies acknowledged this collaboration in everyday activities, such as collaboration in the development of prototypes for different development projects. The stakeholder groups described the following as OSI's main functions:

- extending the University of Oulu to southern Oulu and bringing university-level research to the area;
- R&D, increasing relevant knowledge bases and bringing research results closer to companies;
- a link between the University of Oulu and the companies located in southern Oulu, thereby supporting and developing companies in southern Oulu;
- a collaboration partner with numerous actors and coordinator of regional cooperation amongst actors and
- a regional developer.

The importance of OSI was especially considered to result from its roles as a coordinator and collaboration partner in southern Oulu and from its role in facilitating cooperation between different educational organisations.

Stakeholder groups were asked to describe their cooperation with OSI. Based on the responses, OSI is highly networked in southern Oulu since 84% of respondents had cooperated with OSI in the 2007–2013 programme period. The main network partners are municipalities, small companies, education providers, research organisations and funding agencies. The cooperation mainly occurred on different projects for strategy development and education. Of the respondents, 78% reported having benefitted to some degree from the cooperation. Furthermore, OSI's development projects were seen to boost competitiveness. When assessing the importance of a regional university unit, the respondents clearly stated (86%) that OSI has managed to bring the University of Oulu closer to the southern sub-region, companies and additional actors.

A majority (91%) of the interviewees stated that it is important that southern Oulu have a regional university unit because OSI can:

- channel new knowledge and research results to southern Oulu actors,
- initiate regionally-based cooperation between different actors,
- improve the ability of different actors to succeed and capitalise the demographic potential (young age structure),

**Table 2** Summarised Results of the Role of Oulu Southern Institute As a Regional Actor According to Stakeholders

Category	Knowledge creator	Collaboration partner	Part of regional innovation system	Regional developer
Identified measures taken in southern Oulu	Formation of research groups that combine regional needs and scientific research; building of the knowledge base of the region.	Joint projects; collaboration with firms.	Developing the key industries in the area; co-operation and networking with other educational organisations.	Provider of funding for the area; participating in strategic work projects in the area; networking.
Results of measures	Best results found for the metal industry, CUPP and micro-entrepreneurship; knowledge base built up.	Good reputation; competent partner; different actors brought together; collaboration between different actors intensified and further developed.	Significant regional actor; part of different sectoral innovation systems; became driving force of cooperation between educational organisations.	Long-term effects on firms; successful projects; success stories; knowledge base built up.

*Continued on the next page*

- increase the credibility and knowledge bases in the area (a matter of image),
- widen the operating area of the University of Oulu and
- support micro-, small- and medium-sized companies in the area.

Specifically, OSI's role in building regional competitiveness was seen as a priority. Also, OSI's ability to build international connections was considered to be very important. The results are summarised in the adapted framework (Table 2).

Structural funds, especially the European regional development fund (ERDF), were seen as the main tools for regional development in southern Oulu. OSI was seen as a crucial ERDF and ESF utiliser, and most of the respondents indicated that structural funds would not have been utilised as well without the presence of OSI. In fact, 87% of the respondents agreed that OSI's projects have boosted competencies and skill levels in southern Oulu and that OSI has been a key actor in building knowledge bases, especially in ICT, micro-entrepreneurship, the metal industry and underground physics.

Project work, especially ERDF and ESF projects, are in most cases joint

**Table 2** *Continued from the previous page*

Category	Knowledge creator	Collaboration partner	Part of regional innovation system	Regional developer
Future expectations	Serve as a transferor of knowledge; benefit the region through its research groups; obtain competitive funding for high level research; provide education to citizens (i.e. courses, lectures).	Continue development of regional cooperation; contribute toward the regionalisation of education; support the University of Oulu in student recruitment; link between academia and regional actors.	Become a more visible actor in innovation systems; share good practices; function as a facilitator.	Further develop the fields of micro-entrepreneurship, CUPP and the metal industry; discover weak links, for example in the bio industry; seek to obtain a more versatile use of different funding opportunities; link between academia and regional actors.

efforts, and cooperation is a crucial part of structural fund projects. The data collected by the questionnaire and interviews clearly stated that ERDF projects encourage different regional actors to participate in regional development. Projects also bring different actors together and create new forms of cooperation. In this sense, projects are one means of achieving jointly set goals at the local and the regional levels.

Stakeholder groups largely considered OSI projects to be successful. In particular, micro-entrepreneurship research (MicroENTRE), future manufacturing technologies (FMT) and the underground physics research group (CUPP) were seen as the most successful.

In evaluating the effectiveness of structural funds, the leverage effect, or the ability to create economic returns, is often under scrutiny. The respondents were asked to give examples of unexpected project results. The FMT research group of OSI has contributed toward current changes in metal industry. For example, the dependence of the metal industry on Nokia Corporation in southern Oulu was reduced. The FMT projects of OSI have also managed to reach numerous companies working in the metal industry of the area. The projects and international collaborations of the underground physics research group (CUPP) of OSI have opened new possibilities, for example, to reuse the Pyhäjärvi Mine's infrastructure in the CallioLab project (Kutuniva et al., 2016). The results of such projects often lead to new projects (funded with either structural funds or other financial instruments). In questionnaires and interviews, bringing good practices to public awareness was mentioned as important.

When asked if these developmental activities and projects would have happened without ERDF, all interviewees clearly stated that ERDF was a crucial development tool. Some developmental activities might have been possible in the area but at a smaller scale and longer time frame. ERDF was considered to be a key promoter of development and a pathway to different financial instruments (e.g. Horizon 2020). Thus, without this support, international financial instruments would have been less actively exploited. In addition, the research activities that have supported local companies would not have been possible or have achieved the current state of operations without structural funds. From the perspective of regional competitiveness, OSI has succeeded in allocating resources to developmental themes that arise from developmental needs.

### Discussion

Regional policy is one of the EU's main investment policies. It arises from EU's key ideologies, which highlight equality and joint efforts to develop the member States. Cohesion policy is one of the key policy areas aiming to support job creation, business competitiveness, economic growth, sustainable development and citizens' quality of life. It is the second biggest policy field in the EU. As education, research and innovation are amongst the main objectives of the EU cohesion and regional policy, universities play an important role in regional development research, being education their main task and interaction with the society the third task. Universities and other education actors are key players in regional development, especially in northern sparsely populated areas. The universities' role and impact at the regional level can be conceptualised as that of a knowledge creator, collaboration partner, member of an innovation system, regional developer or entrepreneurial actor.

Our aim was to examine how universities participate in cohesion policy and regional development by utilising structural funds in fulfilling their third task. Based on our single case study (OSI), the key roles were to provide collaboration opportunities, function as a binding force, foster high-level skills and knowledge and encourage developmental measures. In this sparsely populated area, credit was given by the interviewed stakeholders to the university unit as a provider of external funding for development actions in the region. In terms of university categorisation, OSI was mainly seen as a knowledge creator, collaboration partner and member of the regional innovation system. Its role as a regional developer was notable in the field of micro-entrepreneurship, the metal industry and underground physics. These successful projects and stories were important to the stakeholders and served as evidence of the long-term effects of the EU cohesion policy and regional development.

Another research question about how the closest stakeholder groups view the regional role of the university gave interesting results regarding the realisation of the third task by universities. The core stakeholders pointed out that several of the R&D actions would not have been possible without the university unit. In this sense, the university understood the needs and the business structure of the region and was able to focus its actions on creating dialogue amongst stakeholders, thereby enabling genuine collaboration and interaction. Its established collaboration networks with enterprises and other organisations is a significant indicator of the positive fulfilment of this task. Overall, OSI has brought the university into closer contact with the companies of the region, lowering the threshold for joint project collaboration and raising regional competencies.

As implication to universities, the stakeholders expressed a desire for collaborations to continue between the university and regional actors. Other expectations, for example, include the wish that the university would provide more academic educational opportunities in the region. The discovery of weak areas or industries and the more versatile use of different funding opportunities were also mentioned as part of the future expectations in addition to the hope that the university would continue to become a more visible actor in regional innovation.

This study complements the discussion of universities as regional actors and cohesion policy implementers. In the findings, the importance of the university and its unit for regional development is clearly confirmed. Structural funds are the main tools for development. The university unit was perceived as a crucial actor and knowledge creator, collaboration partner and regional developer as well as a fundamental part of the regional innovation system. Limitations of this study include the analysis of only one case unit. In further studies several units in different cohesion policy areas should be analysed.

Practitioners and interested academics might find the results beneficial. According to the findings, the university should participate in recommending development areas for cohesion policy in order to form the guidelines for the next structural fund period. This kind of influence might also be applied at national level. Namely, Finnish legislation for universities strongly supports their collaboration with society. However, there is a contradiction between the law and the rewarding system of government financing for actions seen as fulfilment of the 'third task' of the university. The financing system rewards only research and education results, not the results of interaction with the society, the 'third task.' Currently, there are no commonly accepted indicators for evaluating universities' regional actions in order to allocate governmental funding and budget for the third task of universities. In future studies, there is room for policy recommendations in this area, too.

## References

- Armstrong, H., & Wells, P. (2006). Structural funds and the evaluation of community economic development initiatives in the UK: A Critical Perspective. *Regional Studies*, 40(2), 259–272.
- Arvanitis, S., Kubli, U., & Woerter, M. (2008). University-industry knowledge and technology transfer in Switzerland: What university scientists think about co-operation with private enterprises. *Research Policy*, 37(10), 1865–1883.
- Bachtler, J., & Wren, C. (2006). Evaluation of European Union cohesion policy: Research questions and policy challenges. *Regional Studies*, 40(2), 143–153.
- Batterbury, S. (2006). Principles and purposes of European Union cohesion policy evaluation. *Regional Studies*, 40(2), 179–188.
- Boucher, G., Conway, C., & Van Der Meer, W. (2003). Tiers of engagement by universities in their region's development. *Regional Studies*, 37(9), 887–897.
- Bramwell, A., & Wolfe, D. A. (2008). Universities and regional economic development: The entrepreneurial University of Waterloo. *Research Policy*, 37(8), 1175–1187.
- Business/Higher Education Round Table. (2006). *Universities' third mission: Community engagement* (B-Hert Position Paper No. 11). Fitzroy, Australia: Business/Higher Education Round Table.
- Cappellen, A., Castellacci, F., Fagerberg, J., & Verspagen, B. (2003). The impact of EU regional support on growth and convergence in the European Union. *Journal of Common Market Studies*, 41(4), 621–644.
- Coenen, L. (2007). The role of universities in the regional innovation systems of the North East of England and Scania, Sweden: Providing missing links? *Environment and Planning C: Government and Policy*, 25, 803–821.
- Cohen, W. M., Nelson, R. R., & Walsh, J. P. (2002). Links and impacts: The influence of public research on industrial R&D. *Management Science*, 48(1), 1–23.
- Dall'erba, S., & Le Gallo, J. (2008). Regional convergence and the impact of European structural funds over 1989–1999: A spatial econometric analysis. *Papers in Regional Science*, 87(2), 219–244.
- D'Este, P., & Patel, P. (2007). University-industry linkages in the UK: What are the factors underlying the variety of interactions with industry? *Research Policy*, 36(9), 1295–1313.
- Ederveen, S., de Groot, H., & Nahuis, R. (2006). Fertile soil for structural funds? A panel data analysis of the conditional effectiveness of European cohesion policy. *Kyklos*, 59(1), 17–42.
- Edquist, C. (2005). Systems of innovation – perspectives and challenges. In J. Fagerberg, D. C. Mowery, & R. R. Nelson (Eds.), *The Oxford Handbook of Innovation* (pp. 181–209). Oxford, England: Oxford University Press.
- Etzkowitz, H., & Leydesdorff, L. (2000) The dynamics of innovation: From national systems and 'Mode 2' to a triple helix of university-industry-government relations. *Research Policy*, 29(2), 109–123.

- Etzkowitz, H., Webster, A., Gebhardt, C., & Cantisano Terra, B. R. (2000). The future of university and the university of the future: Evolution of ivory tower to entrepreneurial paradigm. *Research Policy*, 29(2), 313–330.
- European Commission. (2015). Evaluating EU cohesion policy. Retrieved from [http://ec.europa.eu/regional\\_policy/en/policy/evaluations/](http://ec.europa.eu/regional_policy/en/policy/evaluations/)
- European Commission. (2016). The EU's main investment policy. Retrieved from [http://ec.europa.eu/regional\\_policy/en/policy/what/investment-policy/](http://ec.europa.eu/regional_policy/en/policy/what/investment-policy/)
- Farole, T., Rodriguez-Pose, A., & Storper, M. (2011). Cohesion policy in the European Union: Growth, geography, institutions. *Journal of Common Market Studies*, 49(5), 1089–1111.
- Freeman, R. E. (2010). *Strategic management: A stakeholder approach*. New York, NY: Cambridge University Press.
- Geiger, R. L., & Sá, C. M. (2008). *Tapping the riches of science: Universities and the promise of economic growth*. Cambridge, MA: Harvard University Press.
- Hanafin, S. (2004). *Review of literature on the Delphi technique*. Retrieved from [http://dcya.gov.ie/documents/publications/Delphi\\_Technique\\_A\\_Literature\\_Review.pdf](http://dcya.gov.ie/documents/publications/Delphi_Technique_A_Literature_Review.pdf)
- Jauhainen, J., & Niemenmaa, V. (2006). *Alueellinen suunnittelu*. Tampere, Finland: Vastapaino.
- Kaivo-oja, J., & Kuusi, O. (1997). Delfoi-menetelmän käyttö ennakoitointoiminnassa. *Futura*, 16(2), 16–23.
- Kelhä, L. (2014). *Pohjois-Suomen EAKR-toimenpideohjelman tulokset ja alueellinen vaikuttavuus Pohjois-Pohjanmaalla: Ohjelmakausi 2007–2013*. Oulu, Finland: Pohjois-Pohjanmaan liitto.
- Kuusi, O. (2002). Delfoi-menetelmä. In M. Kampainen, O. Kuusi, & S. Söderlund (Eds.), *Tulevaisuudentutkimus: Perusteet ja sovellukset* (pp. 204–223). Helsinki: Suomalaisen Kirjallisuuden Seura.
- Kutuniva, J., Enqvist, T., Isoherranen, V., Jalas, P., Joutsenvaara, J., Kusiniemi, P., Mäkeläinen, R., & Luukkonen, K. (2016, 29–31 March). *New underground laboratory in the Pyhäsalmi mine (Calliolab) and plans for the future scientific activities*. Paper presented at the 50th Annual Conference of the Finnish Physical Society, Oulu, Finland.
- Laredo, P. (2007). Revisiting the third mission of universities: Toward a renewed categorization of university activities? *Higher Education Policy*, 20(4), 441–456.
- Laursen, K., & Salter, A. (2004). Searching high and low: What types of firms use universities as a source of innovation? *Research Policy*, 33(8), 1201–1215.
- Linstone, H. A., & Turoff, M. (2011). Delphi: A brief book backward and forward. *Technological Forecasting & Social Change*, 78(9), 1712–1719.
- May, T., & Perry, B. (2006). Cities, knowledge and universities: Transformations in the image of the intangible. *Social Epistemology*, 20(3/4), 259–282.
- Miettinen, R. (2002). *National innovation system: Scientific concept for political rhetoric*. Helsinki: Edita.

- Mohl, P., & Hagen, T. (2010). Do EU structural funds promote regional growth? New evidence from various panel data approaches. *Regional Science and Urban Economics*, 40(5), 353–365.
- Molas-Gallart, J., Salter, A., Patel, P., Scott, A., & Duran, X. (2002). *Measuring third stream activities* (Final report to the Russell Group of Universities). Falmer, England: University of Sussex.
- Mowery, D., & Sampat, B. N. (2005). Universities in national innovation systems. In D. C. Mowery, J. Fagerberg, & R. R. Nelson (Eds.), *The Oxford Handbook of Innovation*. Oxford, England: Oxford University Press.
- Mowery, D. C., & Ziedonis, A. A. (2015). Markets versus Spillovers in outflows of University Research. *Research Policy*, 44(1), 50–66.
- Rodríguez-Pose, A., & Fratesi, U. (2004). Between development and social policies: The impact of European structural funds in Objective 1 regions. *Regional Studies*, 31(1), 97–113.
- Schartinger, D. (2002). Knowledge interactions between universities and industry in Austria: Sectoral patterns and determinants. *Research Policy*, 31(3), 303–328.
- Siegel, D. S., Wright, M., & Lockett, A. (2007). The rise of entrepreneurial activity at universities: Organizational and societal implications. *Industrial and Corporate Change*, 16(4), 489–504.
- Tijssen, R. J. W. (2006). Universities and industrially relevant science: Towards measurement models and indicators of entrepreneurial orientation. *Research Policy*, 35(10), 1569–1585.
- Tödtling, F., & Trippel, M. (2005). One size fits all? One size fits all? Towards a differentiated regional innovation policy approach. *Research Policy*, 34(8), 1203–1219.
- Uyarra, E. (2010). Conceptualizing the regional roles of universities: Implications and contradictions. *European Planning Studies*, 18(8), 1227–1246.
- Yliopistolaki. (2009). Retrieved from <http://www.finlex.fi/fi/laki/ajantasa/2009/20090558>
- Youtie, J., & Shapira, P. (2008). Building an innovation hub: A case study of the transformation of university roles in regional technological and economic development. *Research Policy*, 37(8), 1188–1204.

**Eija-Riita Niinikoski** is a Development Manager at the Kerttu Saalasti Institute at the University of Oulu. She has received her Master of Arts in Theology. Her primary research interests are regional development, the role of higher education institutions in regional development, internationalisation processes and the development of micro-companies and SMEs in rural areas, and management and leadership of expert organisations. She has been the Manager responsible for many development projects; she has also been involved in several international projects. [eija-riita.niinikoski@oulu.fi](mailto:eija-riita.niinikoski@oulu.fi)

**Laura Kelhä** has her Master of Science in Geography specializing in Regional Development and Regional Politics. Her special interests include impact assessment and multi-level governance especially in project work. She is currently working in municipality of Liminka as a Project Specialist and coordi-

nates project portfolio and development measures in the municipality. Before her current position she worked in Council of Oulu Region with structural funding and regional development. *laurakelha@gmail.com*

**Ville Isoherranen** is the director of an international research institute, Kerttu Saalasti Institute (KSI), at the University of Oulu. He has an extensive international and cross-functional industrial management experience, for example, from sales and marketing, supply chain management (after-sales services, sourcing), and management consulting. Dr. Isoherranen's research interests are strategic management, operational excellence, and customer-focused enterprises. *ville.isoherranen@oulu.fi*



This paper is published under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).