

INTER-SECTORAL MOBILITY IN THE CONTEXT OF THE EUROPEAN RESEARCH AREA

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Abstract

The article presents the results of pilot research related to a wider study of a midterm inter-sectoral mobility phenomena as supported by the European Commission. To understand the concept of inter-sectoral mobility, the paper starts with theoretical background on academia-industry links and their role in the knowledge economy. The second chapter introduces the methodology used. In the third chapter, the results gained from the pilot research are presented. The final section discusses these results in the context of the research questions, summarizes the first view of the possible interpretation of immeasurable criteria into measurable variables and recommends the design of further research on the topic.

Keywords

Mobility; Human resources; Entrepreneurship; Horizon 2020; Knowledge transfer.

Introduction

The phenomenon of temporary inter-sector mobility is assumed by the European Commission to be one of the possible inhibitors for knowledge transfer support between research and industry. It is expected that it will enrich EU competitiveness both in terms of new innovative solutions and competitive human resources in research and academia. This specific support scheme implementing the concept of temporary inter-sector mobility was introduced under the name Research and Innovation Staff Exchange (RISE) in 2013 as one of the events of the Marie Skłodowska-Curie section of Horizon 2020.

Funding to be obtained from this scheme by successful projects is basically dependent on the number of person-months the research team spends on research work both in different countries and different sectors at the same time. With such a specific principal “no international inter-sector mobility, no funding”, the original question behind this research paper was related to the nature of the successfully funded projects. How was the concept implemented in practice and are there any measurable features that would describe the phenomenon to inspire both new research teams while applying in response to the new calls for proposals of this scheme and policy makers in possible future implementation of the scheme?

However, with no previous specific research on this topic, it was necessary to identify relevant information resources and implement the pilot research to verify their information potential with regard to the original research question. The research on the topic was therefore split into two phases – the pilot research, and the final research which would be based on the pilot's results.

This paper presents the results of the first phase – the pilot research project, the objective of which was to identify promising resources of reliable, valid and measurable information, and propose the design of the second phase of research on the topic. The pilot research was based on pre-scanning of the existing information sources which identified three possible information sources, each of them containing a different type of information (based on theoretical background of the topic).

The interest of the research sector to participate in the Marie Curie funding scheme was confirmed both by the previous history of the successful Framework EU programmes for research and technological development and by several previous research projects related to the analysis of Marie Curie scheme (see the chapter on its background). The unknown feature of the studied phenomenon was the role of different sectors and their interest to collaborate under such specific financial and technical arrangements the RISE scheme offers. Therefore, the objective of the pilot research was to identify relevant information resources that would be able to answer two main specific research questions – what kind of organizations from different sectors collaborate in RISE projects of inter-sectoral scientific collaboration; and can the excellence in HR on the side of research sector be of any significance to the evaluation process?

1 Background Information

1.1 RISE Scheme in the Frame of the EU Policy

In its Treaty on the Functioning of the EU (article 179.1), the European Union highlights the need for strengthening its scientific and technological bases by developing a common European Research Area [1]. The article emphasizes the importance of free circulation of researchers, knowledge and technology between sectors to back up the EU's future in competitiveness. To implement this idea, the European Commission has introduced several support mechanisms, including specific strategies (such Europe 2020) or specific financial support tools, the aim of which is, besides other topics, to break down barriers and foster collaboration between sectors.

Among many specific collaboration support tools introduced by the 8th Framework Programme for Research and Development (Horizon 2020), there is a set of specific support actions directed to human resources development called Marie Skłodowska-Curie Actions. These actions are intended to support career development and training of researchers with a focus on innovation skills through international and inter-sectoral mobility. It is expected that some 65 000 researchers will obtain support from these actions [2].

1.2 Inter-Sectoral Mobility and Human Resources Development

While the concept of human resources development by international mobility is quite common within the research community, the concepts of mutual learning by inter-sectoral mobility are relatively new.

The opportunities for inter-sectoral mobility have been present in some form in all previous Framework programme mobility schemes, but they have never been widely used. The Impact assessment of the Marie Curie Fellowships under the 4th and 5th Framework Programmes implemented by the IMPAEL project [3] in 2005 shows that the majority of researchers (88%) carried out their career development fellowship at a university or a public research centre. However, the research also discovered a strong tendency for the industrial sector to offer follow-up contracts after the Marie Curie Fellowships. As an example, 65% of fellows who had spent their training fellowship period in an industrial environment (although the total

number of them was relatively low) were subsequently employed by the same sector after their fellowship was completed. The IMPAEL project is not the only research highlighting the need for the introduction of specific incentives for the transfer of pathways for staff between industry and academia.

The Aho report, for example, confirmed that the lack of movement of researchers between sectors was partly due to structural barriers and also partly due to lack of incentives [4]. In the EC's report *Mobility of Researchers between Academia and Industry* 12 practical recommendations [5], developed by four working groups of experts from meetings in 2005 in Brussels, the need for EU researchers to "follow in Einstein's footsteps and build academia-industry links" is highlighted as well. This group of experts agreed, in collaboration with the Steering Group on Human Resources and Mobility (established by the EC in 2002 [6]), that advancing inter-sectoral-mobility is necessary to eradicate the so called "European Paradox" that describes the EU's low ability to turn research results into globally competitive products.

The van de Velde's report [7], summarizing the results of the mutual learning workshop on Human Resources and Mobility on intersectoral mobility from 2014, speaks of 'leaving a great terrain of innovation potential outside academia unexplored due to low rate of inter-sectoral mobility and the need for fostering the inter-sectoral mobility'. The European University Association emphasizes the need for inter-sectoral mobility in its report *Mobility: Closing the gap between policy and practice* [8]. The importance of Personnel exchanges and inter-sectoral mobility is mentioned in the OECD's Science Technology and Industry Policy Papers No. 7 [9], and the cross-sectoral collaboration is considered by Technopolis group while suggesting the certification mechanism for HR quality management in the public research sector in Europe [10]. The need for inter-sectoral mobility is also emphasized by the OECD in its key findings on the careers of doctoral holders [11].

1.2.1 Inter-Sectoral Mobility under Horizon 2020

As demonstrated above, there has been an increase in interest in the inter-sectoral mobility of researchers in the last decade. It is therefore not surprising that the EU has introduced a specific support tool directed particularly in support of inter-sectoral mobility in the framework of Horizon 2020. This scheme is part of the Marie Skłodowska-Curie actions and is known as Research and Innovation Staff Exchange (RISE).

The RISE scheme was available for the first time to applicants in 2013, and until now, four calls for proposals have been open (with only first three of these providing final results). According to the Work Programme [12] and the Guide for Applicants [2] the purpose of RISE is to "promote international and inter-sector collaboration through staff exchanges". With those staff exchanges, the basic idea is to work on a common research and innovation projects. By such arrangement, it is expected that a shared culture can be fostered between research and innovation sectors and the entrepreneurial skills of researchers could be strengthen. It is also expected that by this scheme the European paradox can also be reduced.

To guarantee the fairness of the selection process of projects that are funded, "the evaluation of proposals is carried out by the Research Executive Agency (REA) with the assistance of independent experts. Experts perform the evaluation on a personal basis" [2].

1.2.2 Research Objective: Evaluation of Projects under the RISE Scheme – The Challenge

Successful projects under the RISE scheme are selected based on a set of evaluation criteria which are comprised of three sections – excellence, impact, and the quality and efficiency of the implementations. The projects are evaluated by at least three independent experts, who, in

addition to scientific qualities, judge each project from a political and managerial perspective, which include criteria such as quality and credibility of inter-sectoral project aspects, quality and appropriateness of knowledge sharing, quality of proposed interactions or, for example appropriateness of the institutional environment. Each project is judged on eleven specific criteria in total [2]. The evaluation criteria are known to applicants before project submission, and it is expected that availability of that knowledge improves the quality of applications.

Unfortunately, the challenge of the evaluation procedure is that the set of evaluation criteria is relatively wide and in the majority of evaluation criteria even experts on innovation do not often agree on the method of measurement or possible impact of phenomena on the innovation process. From this point of view, there is significant room for differences in interpretation by evaluators who are usually experts in the scientific field of the project, but are not necessarily experts on innovations. Therefore the knowledge of how the criteria are manifested in successful projects can be a valuable source of inspiration for those who wish to apply for the RISE funding in the future. Future applicants could utilize this knowledge to better understand how to potentially address these criteria in their project proposals.

Therefore the objective of this paper is to initiate discussion on this topic. This will be done by implementing pilot research the objective of which is to identify whether there is any additional measureable information to be gained from the collected data related to successful RISE projects, their topics and consortia.

1.2.3 Theoretical Background on Inter-Sectoral Mobility

The majority of scholars consider that links between research (including academia) and industry are beneficial resources for innovation and economic growth [13–17]. Links between the two sectors are not only the subject of extensive research by the scientific community but are also part of many political agendas worldwide. The literature available on innovation and links between research and industry is sizeable. It deals with an array of topics, which reflect the complexity of innovation processes, knowledge transfer and knowledge generation. These can be affected by many aspects from macroeconomic factors to individual competences of a single researcher.

The RISE projects are directed to support the links between research and industry at individual and organizational levels in international contexts. Therefore, it is necessary for anyone who is interested in the scheme to become familiar with the background knowledge that focuses on many topics. This means that potential applicants should at least have knowledge of technology and knowledge of transfer [18, 19]; they should be aware of the opportunities networks can bring in the context of both knowledge generation and its commercial applications [20–22]; they should learn about relationships between organizations and scientific creativity [20]; and they should understand the basic issues related to human resource management and career planning in science [23–25].

However, even experts on every single one of these areas will encounter certain obstacles. Regardless of the area of specialty, there are various limitations that are common to the majority of research on science industry links. Firstly, the majority of authors highlight the limitations of their conclusions from the perspective of possible application. A second challenge that may arise is that many inter-sectoral collaboration research topics are complex and relatively new, and further research is required for them to be properly understood. Finally, perhaps one the greatest challenges the authors face relates to the possibility of the objective measurement of performance of innovation or industry-research links.

In the book *Academic Capitalism* [26], Münch et. al. introduce several challenges of the New Public Management (NPM) [27, 28], that are related to its ability to set objective measures to

compare project quality. This is seen as a weakness in the system. A similar idea referring to the debatable objectivity of selection criteria in the context of publicly funded projects was expressed by the Swiss economist M. Binswanger [29]. In relation to the NPM system and the way that projects are selected for funding he goes so far as to use the expression “illusion” of measurability. Another interesting research paper opening the debate on quality of any effort related to measurement and quality evaluation of science and technology performance was authored by Christopher Freeman and Luc Soete [30].

From this point of view the overall challenge of the RISE scheme and its implementation can be understood – it tries to implement several features of inter-sectoral collaboration aspects at once and yet those qualities are difficult to measure. Therefore to analyse the results of the evaluation procedures (successfully funded RISE projects) can shed light on how the selection criteria can be manifested in practice.

2 Data and Methods

As already mentioned the objective of the pilot research was to evaluate the validity of available information resources and identify the most promising information resources and categories of information in order to optimize the second research phase (which shall be implemented on the complex set of all 265 RISE projects funded in the period of 2014 – 2016). With this objective in mind, the research methodology combined a quantitative document analysis with a qualitative content analysis.

The original data on successful RISE projects were very limited and they were presented by the European Commission online at the Cordis database of projects [31]. Cordis is the European Commission’s primary public repository and portal for disseminating information on all EU-funded research projects and their results. The search engine of Cordis enables the selection of projects financed under specific financial schemes or calls. The dataset generated by a specific search question contains rudimentary information on the number of projects financed, their duration and identification number, as well as a link to a single project’s fact sheet (containing the same information structure for every project). The project fact sheet was utilized as a basic resource of primary information on successful RISE projects.

The data from the project fact sheet were assessed in the context of theoretical and background knowledge. This evaluation resulted in categorization of primary data into three groups according to their content and possible resource (Table 1).

In the context of the research questions, the analysis of documents related to European Research Area development suggested that the "HR Excellence in Research" award could be one of the promising measurable variables typical for successful RISE projects. The HR Excellence in Research award (HRS4R) can be attained by research and academic institutions who implement the Charter & Code [32] in their policies and practices related to human resources development. By the end of April 2017 there were three hundred and fifty one organisations that had received the HR Excellence in Research award. Databases of HRS4R Acknowledged Institutions were available on the Euraxess web page [33].

Tab. 1: Categorization of information for the purpose of qualitative content analysis

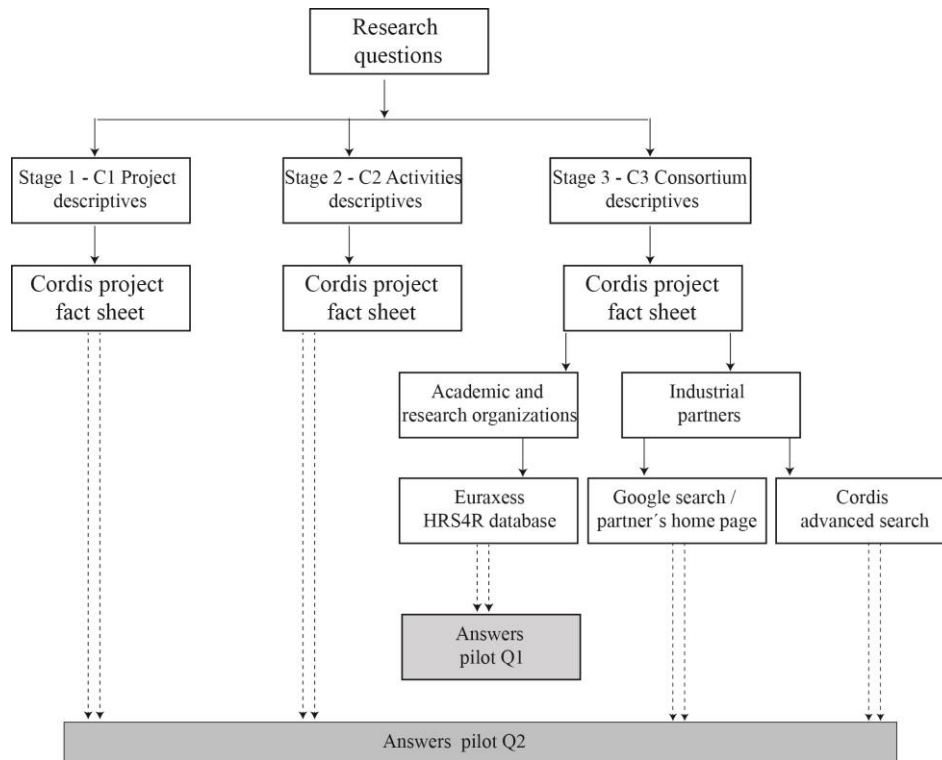
Category	Resource	Data
C1: Basic measurable variables describing the project	CORDIS (cordis.europa.eu), Project fact sheet, sections Project details and Related information	numerical
C2: Measurable variables on scientific profile and actions of the project	CORDIS, Project fact sheet, section Objectives	text
C3: Measurable variables describing the project consortium	CORDIS, Project fact sheet, sections Project details and Related information CORDIS, Project advanced search – reference information to the previous experience of the project partners EURAXESS (https://euraxess.ec.europa.eu), section The Human Resources Strategy for Researchers, database HRS4R Acknowledged Institutions	numerical categorical

Source: Own

The objective of the pilot research was to identify whether primary data that were available on a single project consortium could provide evidence of features (other than the scientific topic of the project) which may characterize the majority of successfully financed RISE projects. Specific objectives of the pilot research that were considered while planning the research design were to confirm or reject the HRS4R significance assumption and to verify or identify other promising directions for further data gathering (to avoid the collection of data with low validity to answer the research questions) with a view to designing the second phase research (on the complete set of data).

2.1 Pilot Data Collection

For the purpose of the pilot study a random sample of 30 projects financed under the RISE support action was selected (April 2017). Since there were no differences in the specific requirements for single RISE calls, random selection was applied and no stratification based on the year of the call was necessary. The basic list of projects was generated by the Cordis search function. A data collection plan was developed (see Fig. 1) according to which the data collection for every project was implemented in three stages (reflecting the nature of the collected data and information resources).



Source: Own

Fig. 1: Data collection design

Data gathered during the first and second stages were based on information presented in Project fact sheets only. The third stage required additional information resources (see Fig. 1). This stage involved searches directed to HR quality of research and academic partners that had been awarded ‘HR Excellence in Research’ (HRS4R). To identify whether and how many partners were awarded the HRS4R, the Euraxess database was used, since it lists all organizations that were awarded the HRS4R. To obtain additional information on industrial partners of the single project, the Google search engine was used to locate partners’ web pages. Web page content analysis involved searching for information supporting the presumption that companies interested in this scheme might have taken part in previous collaborative research with academia or are likely to become members of international networks.

3 Results of the Research and Discussion

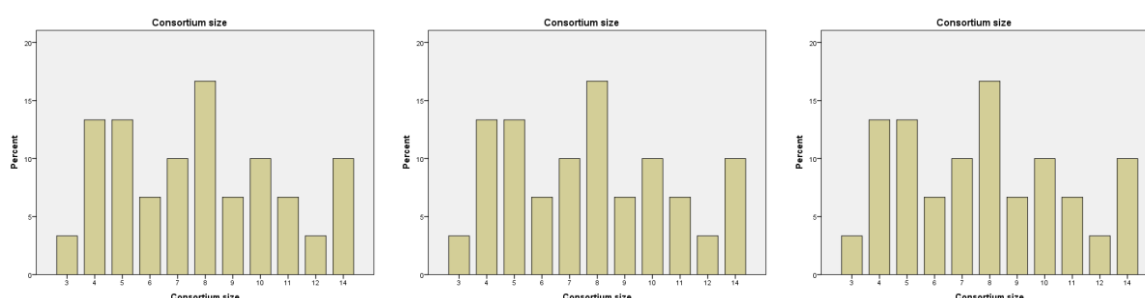
The process of pilot data collection culminated in a datasheet comprising thirty complete project profiles, each consisting of a set of thirty-five measurable variables which include characteristics such as the size of the consortium, its basic financial strategy (in terms of budget distribution and EC contribution), the structure of the various organization types within it, the regional distribution of partnerships, the incidence of the HRS4R, and the presence of interrelations between entrepreneurial partners with either research or international organizations (both from the personnel and organizational points of view) including the possible history of Framework programmes’ participation. The text information from the project fact sheets that described the objectives was processed by using text mining principles. Descriptive data were generated for all the variables to identify features that are present in the majority of projects, and the most promising categories of variables were identified in order to be used for further research on the whole data set.

3.1 Basic Measurable Variables Describing the Project – C1 Category Results Overview

From the financial point of view, the costs of projects vary significantly, starting from EUR 346,500 to EUR 2,344,500, with EUR 1,182,450 being the average cost of a single project. Two thirds of the projects obtained 100% financial support from the EC. The EC contribution to the remaining one third of projects varies significantly, from 56% to 97%. The duration of all projects was 48 months.

Although the guide for proposals recommends consortia sizes of from 4 to 6 partners [2], the actual sizes were from 3 to 14 partners, with 7 partners per consortium on average and both the mode and modus at 8 partners per consortium.

The majority of projects were coordinated by Higher or Secondary Education Establishments and by organizations from the United Kingdom. For detailed overview see Fig. 2.



Source: Own, data from CORDIS database

Fig. 2: Basic descriptive information on projects

There was quite significant variability in the majority of the data collected within the first stage under C1 category. Further research based on a larger data set is therefore considered promising in terms of adding new knowledge on measurable criteria describing successful RISE projects. In particular, the fact that the average size of the project consortia is higher than the recommended size already suggests the flexibility of the scheme in favour of project excellence and impact.

3.2 Scientific Profile and Actions of the Project – C2 Category Results Overview

The information on project actions presented within project fact sheets was very general (but it is the only existing information source containing relevant information on the topic on all financed RISE projects). The original objective was to summarize all information on project actions, from excellence and impact to its implementation. While planning the pilot research, it was expected that this data would be too general to provide any specific information adding knowledge to the discussion on measurable success criteria. From this point of view, the objective of stage two was to confirm or reject this assumption.

The textual analysis was implemented manually so as not to miss out any important information that could add to the knowledge of the topic. All texts were read, and draft thematic groupings of information were designed (in the context of document analysis resulting from the Work Programme – the Guidelines for Applicants, the strategic document Europa 2020 and other reference documents for Horizon 2020). This stage was relatively time-consuming, as for every project a list of up to 20 key words was created and based on this list the final thematic groupings of words were designed.

The textual analysis resulted in thematic groupings of information: 1. scientific topic; 2. methodology; 3. relevance to the Europe 2020 strategy; 4. entrepreneurship and

transferable skills; 5. networking. Most of the evaluated texts presented the information on project action in the combination of topics 1, 3, 4 and 5; topic 2 (methodology) was relatively scarce (8%).

The results of the textual analysis have shown that the profile texts were mainly directed to the presentation of the wider impact of the projects rather than project implementation. These findings have confirmed the original assumption related to the relevance of this information in the context of the main research question. Data collected in C2 category were general and did not add any significant knowledge of inter-sectoral mobility financed under the RISE scheme.

3.3 Variables Describing the Project Consortium – C3 Category Results Overview

The third stage of the pilot data collection project was considered to be the most promising in terms of data gathering. The stage was implemented on three levels:

1. Evidence of regional distribution of project partners (with special attention to the regional distribution of industrial partners and collaboration with countries other than EU member states or countries associated with Horizon 2020);
2. Evaluation of academic and research organizations in the context of HRS4R award acknowledgment;
3. Evaluation of available background knowledge on industrial partners related to their nature, networking activities and previous collaboration in research with academia.

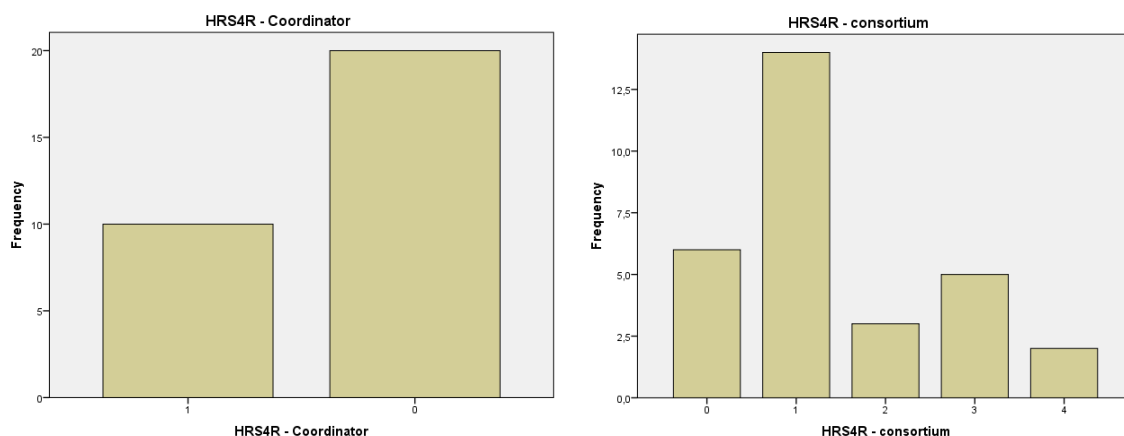
3.3.1 C3 Results – Regional Collaboration

As the objective of the pilot study was to evaluate the validity and reliability of information sources, the data set was relatively small and couldn't be used to identify some specific trends related to the regional concentration of midterm inter-sectoral mobility. But even this relatively small set of data showed a concentration of research activities in organizations originating from the United Kingdom (34 cases), France (33), Italy (24), Spain (26), Greece (16), Germany (15).

Another interesting finding was related to collaboration with so-called third countries (countries that are neither EU members nor associated with the Horizon 2020 programme). In the case of collaboration with partners from third countries, the financial rules of the RISE scheme [2] change. They allow project funding even if the partner from the third country is from the same sector. It was expected that the rate of industrial partners in such projects would be lower, but this assumption was not entirely confirmed. There were only 6 projects out of 17 involving collaboration with third countries with no industrial partners.

3.3.2 C3 Results – HRS4R Award

The results of this part of the analysis fully confirmed the original assumption relating to the significance of the HRS4R award. In one third of the cases, the coordinating organization was listed as an HRS4R acknowledged institution. Numbers were even more convincing when looking at the complete consortium structure. There were only 6 projects out of 30 with no HRS4R acknowledged organization, 46% of all the evaluated projects had one organization that was awarded the HRS4R, and 33% of consortia included more than 1 HRS4R acknowledged institution (for details see Fig. 3).



Source: Own processing of data from CORDIS database and Euraxess HRS4R list of acknowledged institutions
Fig. 3: Results of the HRS4R analysis

3.3.3 C3 Results – the Industrial Partners

This section of the pilot data collection project was the most time-consuming, but also the most promising part of the pilot research related to the knowledge on industrial partners interested in midterm inter-sectoral mobility financed in the framework of the RISE scheme.

The results gained from the pilot research confirmed the original idea about industrial partners with previous experience of international research collaboration (68% cases), including participation in other EU financed projects (results from an additional Cordis project search), being more likely to participate in the RISE scheme.

Beyond the original idea, the pilot research during this stage identified several other interesting pieces of information relevant to the research topic. By looking at a history of industrial partners, we were able to identify those who were either spin-off or start-up organizations. The presence of spin-off or start-up phenomena in project consortiums was surprisingly high (40%).

Other interesting knowledge was discovered while performing the content analysis of the management or human resources sections of the industrial partners' web pages. It was revealed that majority of the industrial partners had history of previous human resources interactions between industrial and research (academic) sectors.

It was found out that the management of industrial partners was often simultaneously employed by the academic or research sector or originally came from the research and academic sector (this information was checked on LinkedIn profiles or by full text Google searches using name, titles and country of origin of a person). About 17% of all sample projects involved direct personnel relations between industrial and research (or academic) project partners and 33% of all sample projects involved industrial partners with management with strong academic backgrounds (experienced researchers).

Conclusion

The phenomenon of the mid-term and short-term inter-sectoral mobility financed in the frame of the RISE action of Horizon 2020 is relatively new (from 2013) and no research related to its practical implementation has been performed so far. Previous research projects related to the topic or strategic documents on European Research Area, HR in research or the EU competitiveness confirmed the necessity of further support of inter-sectoral mobility. But as there are many other financial schemes directed to industry-research collaboration and the financial rules of the RISE scheme are very specific, the original question that motivated this

research project was related to the nature of inter-sectoral partnership that would be able to benefit from such specific scheme.

By the mid 2017 there was information available on 265 successfully funded RISE projects from 2014 – 2016 calls for proposals. While evaluating the possible research approaches to the topic and scanning existing relevant data resources, it was decided that the in depth research would be performed on the whole set of 265 project records. As the in-depth analysis would be time-consuming and costly, it was necessary to perform the pilot research project to develop research design and evaluate the information resources in terms of their validity and reliability to the research topic (with respect to the shortcomings of the New Public Management system and its principals of selecting successful projects).

The pilot research project on the topic was designed using a sample of 30 successful RISE project cases. To implement the pilot data collection, a set of 35 variables was designed to be collected on every project (based on available data resources). Based on their nature and information resources they were gained from, the variables were segmented in the following categories: 1. Variables describing the project (category C1), 2. Variables on the scientific profile and actions of the project (category C2), and 3. Variables describing the project consortium (category C3).

The results of the pilot study have confirmed that some of the original assumptions that the pilot study was based on were correct, and that they should be investigated further in the frame of the follow-up research project. At the same time, the pilot verified which categories of data were too time-consuming and costly in terms of their added value and relevance to the research topic and should therefore be omitted from further research.

The C1 category of information was of a more basic, descriptive nature and could provide some information in combination with data from different categories. For this reason, it was recommended to include this information segment in the follow-up research project.

The information category C2 was assessed as the least valuable out of the three categories tested. The ratio between costs and time taken for the data gathering process in comparison with data relevance to the research questions was evaluated as inadequate, and therefore the C2 category of information is not recommended for further study.

On the other hand, the C3 category of information was evaluated to offer much deeper information than expected. The anticipated significance of the HRS4R award (only 6 out of 30 projects had no partners with the HRS4R award) was confirmed. It was also confirmed that the web pages of industrial partners in combination with evaluation of their previous performance under Framework Programmes (Cordis projects database) can bring even more information describing the nature of inter-sectoral partnership than originally expected. This new knowledge relates to the personnel relations and networks between industrial and research (and academic) partners. As this kind of information is considered to be relevant to the research topic, new variables describing the nature of partnership were added to the project information profile based on C3 pilot collection of data.

The research design tested by the pilot data collection project was confirmed to be efficient in terms of relevant knowledge generation. Information resources were found to be advisable to the topic and offering plentiful information to learn more about the phenomena of short and midterm inter-sectoral mobility at this stage of knowledge. Segmenting the measurable variables of single project into three categories and testing them separately enabled to suggest adjustments to the originally designed list of variables.

For the efficiency of the follow-up research project (to be implemented on the complete file of 265 projects) it was recommended to omit C2 category of information entirely (low

information value compared to price and time related to the data collection process) and enlarge the C3 category of data by a new set of specific variables. This group of new 6 descriptive variables relates to history of previous research-industrial collaboration of projects' industrial partners and personal links between sectors to be identified on the side of the industrial partners.

The implementation of the pilot research project has confirmed that the research on inter-sectoral midterm mobility phenomena can bring interesting and actual knowledge applicable both for future applicants to the RISE scheme (by giving them inspiration how this phenomena can be manifested in real partnerships) and those who are responsible for designing research and innovation financial support tools funded from public resources (such as 9th Framework Programme EU for Research and Technical Development). For the second group of knowledge users it could be interesting to compare the final research results with the original expectations for the RISE scheme practical impact.

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Literature

- [1] EU: 2012. Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union. *Official Journal of the European Union*. 55, pp. 1–407.
- [2] *Guide for Applicants – Marie Skłodowska-Curie Actions – Research and Innovation Staff Exchange (RISE)*. 2015. Brussels.
- [3] van de SALTE, D.; ACKERS, H. L.; GILL, B.: 2005. *Impact assessment of the Marie Curie fellowships under the 4th and 5th Framework Programmes of Research and Technological Development of the EU (1994 – 2002)*.
- [4] AHO, E.; SERGER, S. S.; MÖNIG, W.; WILSON, P.; GARMENDIA, C.; STEINBERG, M.; SWIEBODA, P.: 2014. *Outriders for European Competitiveness – European Innovation Partnerships (EIPs) as a Tool for Systemic Change*. Report of the Independent Expert Group. Luxembourg: Publications Office of the European Union. ISBN 978-92-79-35392-5. DOI: [10.2777/6089](https://doi.org/10.2777/6089)
- [5] DIRECTORATE-GENERAL FOR RESEARCH: 2006. *Mobility of Researchers between Academia and Industry / 12 Practical Recommendations*. Luxembourg: Office for Official Publications of the European Communities.
- [6] EUROPEAN COMMISSION: 2006. *Annual Report on research and technological development activities of the European Union in 2005, COM (2006) 685 final*. Brussels.
- [7] VANDEVELDE, K.: 2014. *Intersectoral Mobility*. Brussels.
- [8] COLUCCI, E.; DAVIES, H.; KORHONEN, J.; GAEBEL, M.: 2012. *Mobility : Closing the gap between policy and practice*. Brussels: European University Association.
- [9] OECD. 2013. Knowledge Networks and Markets. *OECD Science, Technology and Industry Policy Papers* No. 7: 90 pp. DOI: [10.1787/5k44wzw9q5zv-en](https://doi.org/10.1787/5k44wzw9q5zv-en)

- [10] TECHNOPOLIS [group] & FRAUNHOFER ISI. 2012. *Interim evaluation & assessment of future options for Science in Society Actions Executive Summary*.
- [11] OECD. 2013. *Making the Most of Knowledge*.
- [12] *HORIZON 2020 Work Programme 2014 – 2015 Marie Skłodowska-Curie Actions Revised*. 2013. Brusel: European Commission.
- [13] CHESBROUGH, H. W.: 2006. Open Innovation: A New Paradigm for Understanding Industrial Innovation. *Open innovation: researching a new paradigm*. Oxford University Press, pp. 1–12. ISBN 978-0-19-929072-7.
- [14] CHESBROUGH, H. W.: 2003. The Era of Open Innovation. *MIT Sloan Management Review*.
- [15] TIDD, J.; BESSANT, J.; PAVITT, K.: 2005. *Managing Innovation*. 3rd edition. Wiley. ISBN 978-0470093269.
- [16] PEREZ-FREIJE, J.; ENKEL E.: 2007. Creative Tension in the Innovation Process: *European Management Journal*. 25(1), pp. 11–24. DOI: [10.1016/j.emj.2006.11.005](https://doi.org/10.1016/j.emj.2006.11.005)
- [17] FAGERBERG, J.; MOWERY, D. C.; NELSON, R. R. (editors): 2006. *The Oxford Handbook of Innovation*. 1st edition. Oxford University Press. ISBN 978-0199286805.
- [18] DEBACKERE, K.; VEUGELERS R.: 2005. The role of academic technology transfer organizations in improving industry science links. *Research Policy*. 34(3), pp. 321–342. DOI: [10.1016/j.respol.2004.12.003](https://doi.org/10.1016/j.respol.2004.12.003)
- [19] LIN, J. L.; FANG, Shih-Chieh; FANG, Shyh-Rong; TSAI Fu-Sheng. 2009. Network embeddedness and technology transfer performance in R&D consortia in Taiwan. *Technovation*. 29(11). Elsevier, pp. 763–774. DOI: [10.1016/j.technovation.2009.05.001](https://doi.org/10.1016/j.technovation.2009.05.001)
- [20] AALBERS, R.; DOLFSMA, W.; KOPPIUS, O.: 2013. Individual connectedness in innovation networks: On the role of individual motivation. *Research Policy*. 42(3). Elsevier B.V., pp. 624–634. DOI: [10.1016/j.respol.2012.10.007](https://doi.org/10.1016/j.respol.2012.10.007)
- [21] RAMPERSAD, G.; QUESTER, P.; TROSHANI, I.: 2010. Managing innovation networks: Exploratory evidence from ICT, biotechnology and nanotechnology networks. *Industrial Marketing Management*. 39(5). Elsevier Inc., pp. 793–805. DOI: [10.1016/j.indmarman.2009.07.002](https://doi.org/10.1016/j.indmarman.2009.07.002)
- [22] GUAN, J.; ZHAO, Q.: 2013. The impact of university–industry collaboration networks on innovation in nanobiopharmaceuticals. *Technological Forecasting and Social Change*. 80(7). Elsevier Inc., pp. 1271–1286. DOI: [10.1016/j.techfore.2012.11.013](https://doi.org/10.1016/j.techfore.2012.11.013)
- [23] KALAR, B.; ANTONCIC, B.: 2014. The entrepreneurial university, academic activities and technology and knowledge transfer in four European countries. *Technovation*. Vol. 36-37, pp. 1–11. DOI: [10.1016/j.technovation.2014.11.002](https://doi.org/10.1016/j.technovation.2014.11.002)
- [24] DUBERLEY, J.; COHEN, L.; LEESON, E.: 2007. Entrepreneurial Academics: Developing Scientific Careers in Changing University Settings. *Higher Education Quarterly*. 61(4). Wiley, pp. 479–497. DOI: [10.1111/j.1468-2273.2007.00368.x](https://doi.org/10.1111/j.1468-2273.2007.00368.x)
- [25] ERIKSON, T.; KNOCKAERT, M.; FOO, Maw Der: 2015. Enterprising scientists: The shaping role of norms, experience and scientific productivity. *Technological Forecasting and Social Change*. Vol. 99, pp. 211–221. DOI: [10.1016/j.techfore.2015.06.022](https://doi.org/10.1016/j.techfore.2015.06.022)
- [26] MÜNCH, R.: 2013. *Academic Capitalism*. 1st editon. Routlege. ISBN 978-0415840149.

- [27] SCHUBERT, T.: 2009. Empirical observations on New Public Management to increase efficiency in public research - Boon or bane? *Research Policy*. 38(8), pp. 1225–1234. DOI: [10.1016/j.respol.2009.06.007](https://doi.org/10.1016/j.respol.2009.06.007)
- [28] LANE Jan-Erik: 2000. *New Public Management Political science, management*. Routledge.
- [29] BINSWANGER, M.: 2010. *Sinnlose Wettbewerbe Warum wir immer mehr Unsinn produzieren*. Freiburg: Verlag Herder.
- [30] FREEMAN, Ch.; SOETE L.: 2009. Developing science, technology and innovation indicators: What we can learn from the past. *Research Policy*. 38(4), pp. 583–589. DOI: [10.1016/j.respol.2009.01.018](https://doi.org/10.1016/j.respol.2009.01.018)
- [31] EUROPEAN COMMISSION. 2017. *Community Research and Development Information Service*. [accessed 2017-03-23]. Available from WWW: <http://cordis.europa.eu/projects>
- [32] *The European Charter for Researchers*. 2005. Luxembourg: Office for Official Publications of the European Communities.
- [33] EUROPEAN COMMISSION. 2017. *EURAXESS: Researchers in motion*. [accessed 2017-04-3]. Available from WWW: <https://euraxess.ec.europa.eu/jobs/hrs4r>

MEZISEKTOROVÁ MOBILITA V KONTEXTU EVROPSKÉHO VÝZKUMNÉHO PROSTORU

Článek shrnuje výsledky pilotní studie, jejímž cílem bylo ověřit navržený postup výzkumu fenoménu mezisektorové mobility tak, jak je podporována Evropskou komisí v rámci Horizon 2020. V teoretické části je téma mezisektorové mobility popsáno jak z pohledu teoretického výzkumu relevantního pro dané téma, tak také z pohledu politik a praxe související s tématem sdílení znalostí mezi sektory v rámci konceptu Evropského výzkumného prostoru. Návazně je představen navrhovaný design výzkumu, který byl ověřen pilotní studií. Na základě jejích výsledků byl původní design upraven a doporučen k dalšímu výzkumu. Výsledky jak z pilotní studie, tak i následného výzkumu budou využitelné nově připravovanými projekty do Horizon 2020, které budou ve svém řešení zahrnovat prvek mobility mezi sektory. Výsledky výzkumu nabídnou zájemcům o finanční podporu inspiraci, jak převést obecná hodnotící kritéria kvality mezisektorové mobility do objektivně měřitelných veličin.

MOBILITÄT ZWISCHEN DEN SEKTOREN IM KONTEXT DES EUROPÄISCHEN FORSCHUNGSRAUM

Dieser Artikel fasst die Ergebnisse einer Pilotstudie zusammen, deren Ziel darin bestand, den vorgeschlagenen Vorgehensweg der Erforschung der Mobilität zwischen den Sektoren so zu überprüfen, wie er von der Europäischen Kommission im Rahmen von Horizon 2020 unterstützt wird. Im theoretischen Teil wird das Thema der Mobilität zwischen den Sektoren beschrieben, und das sowohl aus Sicht der für das gegebene Thema relevanten theoretischen Erforschung als auch aus Sicht der Politik und der Praxis, die mit dem Thema Mitteilen von Kenntnissen zwischen den Sektoren im Rahmen des Konzeptes des europäischen Forschungsraums zusammenhängt. Anschließend wird das vorgeschlagene Design der Forschung vorgestellt, welche durch die Pilotstudie überprüft worden ist. Auf Grundlage von deren Ergebnissen wurde das ursprüngliche Design angepasst und zur weiteren Erforschung empfohlen. Die sowohl aus der Pilotstudie als auch aus der nachfolgenden Forschung hervorgegangenen Ergebnisse werden durch die neu vorbereiteten Projekte für Horizon 2020 nutzbar gemacht, welche in ihrer Ausführung das Element der Mobilität zwischen den Sektoren enthalten. Die Forschungsergebnisse bieten den an finanzieller Unterstützung Interessenten eine Inspiration, wie man allgemeine Bewertungskriterien für die Qualität der Mobilität zwischen den Sektoren in objektiv messbare Größen überführt.

MOBILNOŚĆ MIĘDZYSEKTOROWA W KONTEKŚCIE EUROPEJSKIEJ PRZESTRZENI BADAWCZEJ

W artykule podsumowano wyniki badań pilotażowych, których celem było sprawdzenie zaproponowanego sposobu badań zjawiska mobilności międzysektorowej wspieranego przez Komisję Europejską w ramach programu Horyzont 2020. W części teoretycznej tematyka mobilności międzysektorowej opisana jest zarówno z punktu widzenia badań teoretycznych właściwych dla danego zagadnienia, jak i z punktu widzenia polityk i praktyki związanej ze współdzieleniem wiedzy pomiędzy sektorami w ramach koncepcji Europejskiej Przestrzeni Badawczej. Przedstawiono też proponowaną formę badań, którą poddano weryfikacji w ramach przeprowadzonych badań pilotażowych. Na podstawie ich wyników skorygowano pierwotną formę, zalecając dalsze badania. Wyniki badań pilotażowych, jak i późniejszych badań będzie można wykorzystać w nowych projektach przygotowywanych do programu Horyzont 2020, które będą zajmowały się zagadnieniem mobilności międzysektorowej. Wyniki badań staną się dla aplikujących o dofinansowanie inspiracją, w jaki sposób ogólne kryteria oceny jakości mobilności międzysektorowej przekształcić w obiektywnie mierzalne wielkości.