

AN ANALYSIS OF BILATERAL PROJECT CONSORTIA IN THE CASE OF GREECE AND BULGARIA

Ioannis N. KATSIKIS

Management Science Laboratory, Department of Management Science & Technology,
Athens University of Economics and Business, Greece
MSL Room 204, 47A Evelpidon str., 11362, Athens, Greece
Tel.: +30 210 8203862, Fax: +30 210 8828078. www.msl.aueb.gr, e-mail: ioannis@aueb.gr

Garyfalos FRANGIDIS

Department of Business Administration, School of Management
and Economics, Technological Educational Institute of Serres, Greece
Office 8, 2nd Floor, TEI of Serres, Terma Magnisias, GR 62124, Serres, Greece.
Tel.: +30 2321049310. <http://business.teiser.gr>, e-mail: garyf@teiser.gr

Abstract: Interreg IV is an EU initiative financed under the European Regional Development Fund (ERDF) which aims to stimulate interregional cooperation in the EU between the years 2007–2013. In this empirical paper, we offer a first analytical view on the relations and the network developed through project partnerships within the European Territorial Cooperation Programme. Our aim is to discover and understand the collaborative status of cross border projects in the two countries with regard to their priorities and targets set in Programme Interreg IV: Greece–Bulgaria 2007–2013. In particular, we analyse the characteristics of 90 projects with 329 partners in order to examine data relevant to the project's priority axis, the number of the partners involved, the type of the partners, etc. Our analysis provides insights on the regional and organizational strategies for the development of bilateral collaboration between the organizations of the two countries and for the successful development of future actions for the strengthening of cross border collaboration.

JEL classification: O32, O22, O52

Keywords: cross border cooperation, bilateral projects, project collaboration, Greece, Bulgaria.

Reikšminiai žodžiai: dvišalis bendradarbiavimas, dvišaliai projektai, Graikija, Bulgarija.

1. Introduction

Greece and Bulgaria have a long and interesting bilateral history (Bitzenis, 2006). Being neighbouring countries and recently both members of the EU, they share many

common cultural and traditional characteristics; however, they have very different social and economic environments, in which entrepreneurial activities take place (Katsikis et al., 2012). For example, regarding the bilateral economic relationships, Bulgaria used to be one of the first investment destinations for Greek companies, initially for the small ones and then for the large and international ones, whose gradual growth and expansion in the local markets played an important role in the process of economic development for both counties (Petrochilos and Salavrakos, 2003).

In this paper we analyse the cross border collaborative relations developed through projects of the European Territorial Cooperation Programme Interreg IV: Greece–Bulgaria 2007–2013. In the literature there is a large number of papers discussing the business-related collaboration initiatives in a cross border setting. However, other forms of collaboration, with regard to R&D, civil development, infrastructure development and education, have not been studied. In this paper, we aim to contribute to filling this gap by studying 90 collaborative projects undertaken by a total of 329 organizations from the two countries in the Programme Interreg IV: Greece–Bulgaria 2007–2013. Our objective is to understand the characteristics of the collaboration and the objectives pursued and compare them with the objectives, priorities and targets of the Programme. We perform a project and partner analysis in order to examine data relevant to the project's priority axis, the number of the partners involved, the type of the partners, etc. Our analysis reveals the profile of the organisations that participated in these projects, their ambitions and objectives. Furthermore, our research sheds light on the competences and the competitive advantages for the partner's selection process. Based on those results, our paper concludes by providing insights on the regional and organizational strategies for the reinforcement of bilateral collaboration and the further internationalization of the organizations of the two countries.

The paper is structured in four parts, as follows: in the first part we discuss the role of project collaboration; in the second part we develop the role of cross border collaboration in the case of the European Territorial Cooperation Programs, with a focus on the Operational Program Greece–Bulgaria 2007–2013; in the third part we analyse the methodological approach of our study; in the fourth part we present the findings of our analysis regarding the characteristics of the projects and of the partners involved. The paper concludes with a summary of our results and some ideas for future research.

2. The Role of Project Collaboration

The literature of management and organizational studies has emphasized the importance of studying project collaborations (Sakakibara, 2001) both in theory and in practice. Currently, there is no globally accepted definition on what “collaboration” (Hu & Racherla, 2008) is, since the definition of the term is often based on the understanding of the content of “collaboration” Bukvova, (2010, p. 1). Jassawalla and Sashittal (1998, p. 239) describe collaboration as “the coming together of diverse interests and

people to achieve a common purpose via interactions, information sharing, and coordination of activities.”

The literature addresses project management issues per se (Engwall, 2003, Dvir et al., 1998; Pinto and Kharbanda, 1995; Shenhar and Dvir, 1996), basically as integrating mechanisms that enable cross-functional integration (Ancona and Caldwell, 1990; Ford and Randolph, 1992). Another line of research provides a large number of studies that explore the development of R&D collaborations (Geuna, 1998; Grossman, 2002; Leydesdor & Wagner, 2008; Luukkonen, Persson, & Sivertsen, 1992), as well as collaboration for allocating personnel and resources within established organizations (Ferriani et al. 2009; Hobday, 2000; Davies and Brady, 2000; Prencipe and Tell, 2001).

All the above approaches are based on the common assumption that innovation results increasingly from the joint creation efforts of different players in the value chain (Cassiman et al., 2009, p. 216) and that balancing co-operative and competitive forces in the collaboration process to co-create value and to capture part of this value has become crucial. Along the above research efforts that focus on R&D initiatives and objectives, the study of collaboration in development projects has not attracted the attention of the researchers yet and, thus, has not been studied in depth. To fill in this gap, we shall focus here on studying project collaboration initiatives for development projects in the frame of the Programme Interreg IV: Greece–Bulgaria 2007–2013. Our research is empirical in nature and highlights the importance of the determinants of research cooperation between firms and Public research organizations as in the projects we study.

3. The Role of Cross Border Collaboration

3.1. The Importance of Cross Border Collaboration in the Frame of the European Territorial Cooperation—ETC

Project collaboration initiatives have been actively supported by governments and international organizations, as the EU (Bukvova, 2010, p. 1). According to a recent study sponsored by the European Commission (“Managing Authority of European Territorial Cooperation Programmes,” 2012) cross-border cooperation helps transform regions located on either side of internal or external borders of the European Union into strong economic and social poles. In particular, cross-border actions are used as a development tool and are encouraged in a large variety of the fields, starting from entrepreneurship, the improvement of the joint management of natural resources, supporting links between urban and rural areas, improving access to transport and communication networks, developing joint use of infrastructure, administrative cooperation and capacity building, employment, community interaction, culture and social affairs. As the European Commission highlights in the same study, cross-border cooperation is essentially about “filling the gaps” through agreed cross-border “analysis and response” strategies, specifically formulated and tailored for each border region.

In our case the program which we shall analyse (Interreg IV: Greece-Bulgaria 2007-2013) is a typical case of interregional cooperation aiming to fund developmental projects. A scheme offering a framework for the exchange of experiences between local and regional actors from across Europe in order to contribute to the EU's strategies on growth, jobs and sustainable development. In addition, it aims at reducing disparities by matching less-experienced regions with more advanced regions in the various policy fields such as innovation, demographic change, energy supply and climate change.

3.2. The Case of the ETC Program Interreg IV Greece–Bulgaria 2007–2013

Interreg IV is an EU initiative that aims to stimulate interregional cooperation in the EU between the years 2007–2013. It is financed under the European Regional Development Fund (ERDF). The cross-border European Territorial Cooperation Programme “Greece–Bulgaria 2007–2013” was approved by the European Commission on 28 March, 2008 by the Decision C (2008) 1129/28-03-2008. The total budget (ERDF and national contribution) for the European Territorial Programme “Greece–Bulgaria 2007–2013” was €132,318,963. The total financing consists of €112,471,118 (85%) funding from the ERDF and €19,847,845 (15%) of national contribution from the two neighbouring countries, Greece and Bulgaria. This phase of the Interreg initiative is designed to strengthen economic and social cohesion throughout the EU, by fostering the balanced development of Europe through the development of cross-border, transnational and interregional co-operation. Special emphasis has been placed on integrating remote regions and those which share external EU borders with the candidate countries.

The eligible areas of the programme in the case of Greece and Bulgaria, contains seven Regional Units (former Prefectures) on the Greek side (Evros, Kavala, Xanthi, Rodopi, Drama, Thessaloniki and Serres) and four Districts on the Bulgarian side (Blagoevgrad, Smolyan, Kardjali, Haskovo), covering a total area of 40,202 km² and 2,812,236 inhabitants from both countries. More analytically, the eligible areas of the programme consist of the Region of Eastern Macedonia-Thrace (Prefectures of Evros, Kavala, Xanthi, Rodopi and Drama) and Region of Central Macedonia (Prefectures of Thessaloniki and Serres) in Greece and the South-West Planning Region and South-Central Planning Region (Districts of Blagoevgrad, Smolyan, Kardjali and Haskovo) in Bulgaria. The Prefecture of Kavala has been included as an adjacent area.

The strategic goal of the Operational Program Interreg IV Greece–Bulgaria for the Programming Period 2007–2013 is “to promote the cross-border area by ensuring regional cohesion and enhancing competitiveness.” This strategic goal is expected to be achieved through the two distinctive strategic objectives: 1) Strengthening the attractiveness of the area by upgrading the quality of life and improving accessibility structures and 2) Enhancing competitiveness by promoting entrepreneurship, establishing networks of cooperation and investing in human resources. These two strategic objectives are defined in the relevant Priority Axes, with more special objectives for each one of them. The Priority Axes and the Objectives are summarized in the following table (Table 1):

Table 1. Priority Axes and Objectives in the ETC Program “Greece–Bulgaria 2007–2013”

Priority Axis	Specific Objectives
1: “Quality of Life”	1.1: Protection, Management & Promotion of the Environmental Resources
	1.2: Protection, Management & Promotion of the Cultural Resources
	1.3: Cooperation and Networking on Health and Social Welfare Issues
2: “Accessibility”	2.1: Development of the Road and Railway Network
	2.2: Improvement of Cross-Border Facilities
3: “Competitiveness and Human Resources”	3.1: Support and Valorisation of Human Resources—Support of Preparatory Actions in view of the Open Labour Market
	3.2: Encouragement of Entrepreneurship & Actions that Cope with the Restructuring of the Economy
	3.3: Promotion of Cooperation between Research, Technological and Academic Institutions and Business Organizations
4: “Technical Assistance”	4.1: Core Programme Management Activities
	4.2: Project Generation and Information & Communication Activities of the Programme

4. Methodology

The majority of empirical studies on project collaboration perform an analysis of metrics or explore the collaboration structures as networks (in the case of research collaborations). These often use data about co-authorships in order to create graphs depicting the network formed by the researchers (e.g. Hou et al., 2008; Wagner & Leydesdor, 2005; Newman, 2004). At the same time, many studies in the area of “research collaboration” have been concerned with the measurement of the development as well as with the explanation of the growth (Bukvova, 2010, p. 1) or emphasize on studying the relational antecedents of project-entrepreneurship, such as network centrality, team composition and project performance (Ferriani et al., 2001, p. 1545).

As Cassiman (2010, p. 882) argues, not all R&D projects are alike. Accordingly, we expect their organizational forms to differ. In particular, in this paper we are interested in understanding which project features call for the involvement of scientific institutions, along with the specific organizational form that governs the relationship. Following Williamson (1991a), we assume that three main organizational forms may be adopted: internal development, cooperation, and contracting (i.e. a partner commits to deliver a contractually specified output for some activities in the project).

In our analysis, we assume that cooperation represents an intermediate—non-market and bilateral—hybrid governance mechanism between market and hierarchies, where both parties are jointly responsible for the project outcome. Cooperative agreements involve a mix of features of firms and markets. They resemble markets in that the partners remain separate parties, driven by their own interests. In this study we focus on studying

project collaboration initiatives for development projects in the frame of the Programme Interreg IV: Greece–Bulgaria 2007–2013. We perform a project and partner analysis in order to examine data relevant to the project's characteristics (e.g. priority axis, priorities and targets, number of the partners, partners, etc). For this, we formed a unified dataset of the projects undertaken in the Program, consisting of 90 projects that are implemented through the collaboration of 327 project partners. In this dataset we included information on the project title, the partners involved and their role in the project (lead partner, etc.), the priority axis, the intervention within which the project lies, project number, the final budget and the name of the partner, its nationality and its type. For the needs of our analysis we distinguish and categorize the different types of partners into six (6) categories: 1) Public Organizations, 2) Local Administration Authorities, 3) Non-Governmental Organizations - NGOs, 4) Universities, 5) Research Centres, and 6) Private Companies. In the following sections we present the results of our analysis.

5. Analysis of the Results

In this section we present the results of our analysis. We begin by reporting some preliminary results on the descriptive statistics of our study and then we proceed by focusing on an analysis of the profile of the partners involved.

5.1 Descriptive Statistics and Project Type Analysis

The analysis of the descriptive statistics on the demographics of our sample reveals interesting facts on the structure and the organization of the projects approved. As shown in Table 2, the majority of the projects are located under the “Quality of Life” priority axis; second comes the priority axis number 3 “Competitiveness and Human Resources,” while there is only a limited number of projects in priority axis 2 “Accessibility.”

Table 2. Priority Axis, Objective per Project

Priority Axis	Frequency	Per cent	Objective	Frequency	Per cent	Cum. Per cent
Priority Axis 1: Quality of Life	53	58.9%	1.1	23	25.6%	25.6%
			1.2	12	13.3%	38.9%
			1.3	18	20.0%	58.9%
Priority Axis 2: Accessibility	8	8.9%	2.1	7	7.8%	66.7%
			2.2	1	1.1%	67.8%
Priority Axis 3: Competitiveness & Human Resources	29	32.2%	3.1	11	12.2%	80.0%
			3.2	8	8.9%	88.9%
			3.3	10	11.1%	100.0%
Number of Projects	90	100.0	Total	90	100.0	

Within the priority axis above, the majority of the projects, as exhibited in Table 2, are located under the 1.1 Objective “Protection, Management and Promotion of the Environmental Resources”; the second most important seems to be 1.3 Objective “Cooperation and Networking on Health and Social Welfare Issues,” followed by the 1.2 Objective: “Protection, Management & Promotion of the Cultural Resources.” Generally, priority axis 1 “Quality of Life” is the most important field, since 58.9% of the projects are in the first priority axis, with 25.6% under the 1.1 objective.

The results of the above analysis indicate the importance of the improvement of the quality of life for the cross border regions of the two countries—at least as reflected in the views of the policy-makers in Greece and Bulgaria and at the European level. The improvement of the quality of life is thought to be achieved through activities for the protection, management and the promotion of the environmental resources and through the cooperation and networking on health and social welfare issues.

5.2 Analytics: The Demographics of Partners Involved

Our study reveals interesting facts about the population of participants in these projects. In Table 3 we illustrate the origin of partners involved in relation to their role in the project. Our data show that the majority of partners come from Greece (173—52.9%; 154—47.1% come from Bulgaria). Additionally, Greek partners hold a more important role in the project implementation since the majority of lead partners (LP) come from Greece (65—only 25 from Bulgaria). Probably, the larger experience of Greek partners in undertaking European projects, due possibly to the longer history of participation of Greece in European Union, provides some explanation for this.

Table 3. Country and Role Cross tabulation

Count	Role										Total	Per cent
	LP	PP1	PP2	PP3	PP4	PP5	PP6	PP7	PP8	PP9		
Bulgaria	25	35	41	18	12	8	7	5	2	1	154	47.1
Greece	65	30	24	23	15	5	5	2	3	1	173	52.9
Total	90	65	65	41	27	13	12	7	5	2	327	100.0
Per cent	27.5	19.9	19.9	12.5	8.3	4	3.7	2.1	1.5	0.6	100	
Cumulative Per cent	27.5	47.4	67.3	79.8	88.1	92	95.7	97.9	99.4	100		

In Table 4 we illustrate the dissemination of the partners based on their type and their origin/nationality. The majority of partners—almost half of them (47.4%)—come from the local administration authorities, emphasizing the role of local administration in the development of cross-border cooperation activities. Additionally, an important number of partners (31.8%) come from Non-governmental organizations (NGOs). The participation of other type of partners, such as universities (10.4%), research centres (4.6%), private companies (4.9%) and other public organizations (0.9%) is only mini-

mal, reflecting possibly that the nature of the projects is to support regional development, rather than producing scientific results or business ventures.

Table 4. Country and Type of Partner Cross tabulation

Count	Type of Partner						Total
	1) Public Organizations	2) Local Administration Authorities	3) NGOs	4) Universities	5) Research Centres	6) Private Companies	
Bulgaria	2	81	48	15	5	3	154
Greece	1	74	56	19	10	13	173
Total	3	155	104	34	15	16	327
Per cent	0.9	47.4	31.8	10.4	4.6	4.9	100
Cum. Per cent	0.9	48.3	80.1	90.5	95.1	100	

Additionally, the presence of local authorities in the projects is more important for the Bulgarian partners than it for the Greek ones, while the presence of NGOs from Greece is more intense than for the Bulgarian ones. A large difference exists on the participation of private companies from the two countries. Although there are 13 private companies from Greece, the number of the Bulgarian ones is only limited to three.

A general conclusion It seems that the local authorities of the region are the ones that mostly exploit the opportunities provided through the Programme Interreg IV Greece–Bulgaria 2007–2013 to expand or/and to integrate their scope of activities through the use of the financial resources gained and the development of collaborative projects with other organizations. The same happens for the NGOs from both the Greek and the Bulgarian side who see the ETCP funding as an important opportunity to further expand their activities. In the following table (Table 5), we view the type of partners in relation with the thematic priority axis.

Table 5. Type of Partner * Priority Axis Cross tabulation per Project

Type of Partner	Priority Axis / Project Number			Total Number of Partners
	1: Quality of Life	2: Accessibility	3: Competitiveness & Human Resources	
1) Public Organizations	0	0	0	3
2) Local Administration Authorities	38	8	10	155
3) NGOs	8	0	12	104
4) Universities	4	0	3	34

5) Research centres	1	0	3	15	
6) Private Companies	2	0	1	16	
Total Number of Projects	53	8	29	90	327

It seems that local administration authorities undertake projects mostly in the first priority axis: “Quality of Life”. The third priority axis: “Competitiveness & Human Resources” is the most important one for the NGOs. What is interesting to mention is the fact that under the second priority axis “Accessibility” we see only the operation of local administration authorities and the lack of any other partner, a case rather problematic for the sustained development of the specific target.

6. Conclusion and Discussion

The purpose of our study was to offer a first analytical view on the relations and the networks developed through the development of collaborative partnerships within the frame of the European Territorial Cooperation Programme Interreg IV Greece–Bulgaria 2007–2013. In order to materialize our intentions and as a first step towards further analysis of the results with social networking and other related methodologies, we collected information on 327 projects approved in the above program. Here we presented a first descriptive analysis of the profile of the projects and the demographics of the partners involved. The results from such a descriptive analysis provide interesting outcomes of autonomous value, as well as the basis for the expansion of the research to a more coherent social network analysis, which would provide richer, deeper and more insightful results.

The results indicate the importance of the improvement of the quality of life for the regions of the two countries, which is assumed to be achieved through activities for the protection, management and the promotion of the environmental resources and the cooperation and networking on health and social welfare issues—while the protection, management & promotion of cultural resources lags behind. Our data show that the majority of partners come from Greece (52.9%) and that Greek partners hold a more important role in the project implementation (65 lead partners, in contrast to 25 coming from Bulgaria). Additionally, the majority of partners, almost half of them (47.4%), come from the local administration authorities, emphasising thus the role of local administration in the development of cross border cooperation activities. The presence of local authorities in the projects is more important for the Bulgarian partners than it is for the Greek ones, while the presence of NGOs from Greece is more intense than for the Bulgarian ones. A large difference exists on the participation of private companies from the two countries, with 13 private firms coming from Greece and only three from Bulgaria. It seems that the local authorities of the region are the ones that mostly exploit the opportunities provided through the ETC Programme in order to expand or/and to integrate their scope of activities through the use of the financial resources gained and

the development of collaborative projects with other organizations. The same happens for the NGOs from both the Greek and the Bulgarian side who see the ETC funding as an important opportunity to further expand their activities. Finally, what is interesting to mention is the fact that under the second priority axis “Accessibility” we see only the operation of local administration authorities and the lack of any other partner, a case rather problematic for the sustained development of the specific target

Further research could focus on performing a social network analysis in order to identify and analyse the characteristics of the networks established between the collaborating partners. Such an approach would allow us to see who collaborates with whom and provide input on the criteria for partner selection. Additionally, a further analysis on historical and organizational contexts (Cassiman et al., 2009, p. 216) and on understanding how the structures and procedures employed can be understood in relation to previous and simultaneous courses of activity, to future plans, and to standard operating procedures, traditions, and the norms of their surroundings (Cassiman et al., 2009, p. 216).

Acknowledgements

The work presented here was conducted as part of the project “ENTRE+GB: Greek–Bulgarian Network for Education and Training in Entrepreneurship: Models, Programmes and Virtual Enterprise Infrastructures” (Pr. No. 8089), funded by the European Territorial Cooperation Programme “Greece–Bulgaria 2007–2013” (INTERREG IV) and national funds.

References

1. Ancona, D.G; Caldwell, D. (1990). “Beyond boundary spanning: managing external dependence in product development teams.” *Journal of High Technology Management* 1, pp. 119-135.
2. Bitzenis, A. (2006). “Determinants of Greek FDI Outflows in the Balkan Region: The Case of Greek Entrepreneurs in Bulgaria.” *Eastern European Economics*, Vol. 44(3), pp.79-96.
3. Bukvova, H. (2010), Studying Research Collaboration: A Literature Review, *Sprouts: Working Papers on Information Systems*, 10 (3). <<http://sprouts.aisnet.org/10-3>>.
4. Cassiman, B.; Di Guardo, M.C.; Valentini, G. (2009). “Organising R&D Projects to Profit From Innovation: Insights From Co-opetition.” *Long Range Planning* 42 pp. 216-233.
5. Cassiman, B.; Di Guardo, M.C.; Valentini, G. (2010), “Organizing Links with Science: Cooperate or Contract? A Project-level Analysis.” *Research Policy* 39, pp. 882-892.
6. Davies, A.; Brady, T. (2000). “Organisational capabilities and learning in complex product systems.” *Research Policy* 29, pp. 931-953.
7. Dvir, D.; Lipovetsky, S.; Shenhar, A.; Tishler, A. (1998). “In search of project classification: a non-universal approach to project success factors.” *Research Policy* 27, pp. 915-935.
8. Engwall, M. (2003). “No Project is an Island: Linking Projects to History and Context.” *Research Policy* 32, pp.789-808.

9. Fontana, R.; Geunab, A.; Matt, M. (2003), "Factors affecting university–industry R&D projects: The importance of searching, screening and signaling." *Research Policy* 35, pp. 309-323.
10. Ford, R.C.; Randolph, A.W. (1992). "Cross-functional structures: a review and integration of matrix organization and project management." *Journal of Management* 18 (2), pp. 267-294.
11. Geuna, A., (1998). "Determinants of University Participation in EU-funded R&D Cooperative Projects, *Research Policy* 26, pp. 677–687.
12. Grossman J.W. (2002). "The evolution of the mathematical research collaboration graph." *Congressus Numeratum*, 158, pp. 202-212.
13. Hobday, M. (2000). "The project-based organisation: an ideal form for managing complex products and systems?" *Research Policy* 29, pp. 871-893.
14. Hou, H.; Kretschmer, H.; Liu, Z. (2008). "The structure of scientific collaboration networks in scientometrics." *Scientometrics*, 75 (2), 189-202.
15. Hu, C.; Racherla, P. (2008). "Visual representation of knowledge networks: A social network analysis of hospitality research domain." *International Journal of Hospitality Management*, 27 (2), pp. 302-312.
16. Jassawalla, A.R.; Sashittal H.C. (1998). "An examination of collaboration in high technology new product development processes." *Journal of Product Innovation Management*, 15 (3), pp. 237-254.
17. Katsikis, I.; Fragidis, G.; Paschaloudis, D. (2012). "International and Cross Border Entrepreneurship: The Case of Greece and Bulgaria." *52nd European Congress of the Regional Science Association International "Regions in Motion: Breaking the Path"* 21th-25th August 2012, Bratislava, Slovakia.
18. Leydesdor, L. and Wagner, C. (2008). "International collaboration in science and the formation of a core group." *Journal of Infometrics*, 2 (4), pp. 317-325.
19. Luukkonen, T.; Persson, O.; Sivertsen, G. (1992). "Understanding patterns of international scientific collaboration." *Science Technology Human Values*, 17 (1), pp. 101-126.
20. Managing Authority of European Territorial Cooperation Programmes. (2012). *What is European Territorial Cooperation?* (accessed 21-10.-2012). <<http://www.interreg.gr/en/european-territorial-cooperation.html>>.
21. Newman, M.E.J. (2004). Co-authorship networks and patterns of scientific collaboration. *Proceedings of the National Academy of Sciences of the United States of America*, 101 (1), pp. 5200-5205.
22. Petrochilos, A.G.; Salavrakos, I.D. (2003). "An Assessment of the Greek Entrepreneurial Activity in the Black Sea Area (1989-2000): Causes and Prospects." *Journal of Socio-Economics*, 32: pp. 331-349.
23. Pinto, J.K.; Kharbanda, O.P. (1995). "Lessons for an accidental profession." *Business Horizons* (March/April), pp. 41-50.
24. Prencipe, A.; Tell, F. (2001). "Inter-project learning: processes and outcomes on knowledge codification in project-based firms." *Research Policy* 30, pp. 1373-1394.
25. Sakakibara, M. (2001). "Cooperative Research and Development: Who Participates and in Which Industries do Projects Take Place?" *Research Policy* 30, pp. 993-1018.
26. Shenhar, A.J.; Dvir, D. (1996). "Toward a typological theory of project management." *Research Policy* 25, pp. 607-632.
27. Wagner, C.; Leydesdor, L. (2005). "Network structure, self-organization, and the growth of international collaboration in science." *Research Policy*, 34 (10), pp. 1608-1618.

DVIŠALIO BENDRADARBIAVIMO PROJEKTŲ KONSORCIUMŲ ANALIZĖ GRAIKIJOS IR BULGARIJOS ATVEJU

Ioannis N. KATSIKIS, Garyfalos FRANGIDIS

Santrauka. INTERREG IV yra ES iniciatyva, finansuojama iš Europos regioninės plėtros fondų, kurių tikslas yra skatinti tarpregioninį bendradarbiavimą ES 2007–2013 m. laikotarpiu. Šiame straipsnyje pateikiamas empirinis tyrimas, kurio tikslas nustatyti įgyvendinant Europos teritorinio bendradarbiavimo programą susidariusius projekto partnerystės ryšius bei tinklus. Straipsnio tikslas – nustatyti bendradarbiavimo ryšius, susidariusius tarp Graikijos ir Bulgarijos įgyvendinant tarpregioninius projektus, atsižvelgiant į jų prioritetus ir tikslus, nustatytus programoje INTERREG IV 2007–2013 m. laikotarpiui. Pagrindinis dėmesys straipsnyje yra skiriamas 90 projektų ir 329 partnerių charakteristikų analizei, siekiant išnagrinėti duomenis, susijusius su projektų prioritetinėmis kryptimis, partnerių skaičiumi, partnerių tipu ir kt. Atlikta analizė leidžia visapusiškiau pažvelgti į regionines ir organizacines strategijas, skirtas bendradarbiavimui tarp dviejų šalių institucijų stiprinti, bei numatyti jų būsimo glaudesnio bendradarbiavimo priemones.

Ioannis N. Katsikis—Ph.D. Candidate, Researcher at the Management Science Laboratory, Department of Management Science and Technology, Athens University of Economics and Business, Greece. Research fields: evolutionary studies and co-evolutionary processes, innovation systems, entrepreneurship, sustainable development.

Ioannis N. Katsikis – Atėnų ekonomikos ir verslo universiteto Vadybos mokslo ir technologijų departamento Mokslo vadybos laboratorijos doktorantas. Mokslinių interesų sritys: evoliucijos studijos, evoliucijos procesai, inovacijų sistemos, verslumas, tvarus vystymasis.

Garyfallos Frigidis—Ph.D. Candidate, Lecturer of Business Information Systems, Department of Business Administration, School of Management and Economics, Technological Education Institute of Serres, Greece. Research fields: services management, e-business models, business ecosystems, knowledge management.

Garyfallos Frigidis – Sereso technologinio ugdymo instituto Vadybos ir ekonomikos mokyklos Verslo administravimo katedros doktorantas. Mokslinių interesų sritys: paslaugų valdymas, elektroninio verslo modeliai, verslo ekosistemos, žinių valdymas.