

THE OPERATION OF INDUSTRY LIAISON OFFICES AT THE UNIVERSITIES IN CYPRUS. THE CASE OF THE OPEN UNIVERSITY OF CYPRUS.

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Strand: University – Business Cooperation, Knowledge Circulation, Entrepreneurship, Virtual interfaces

Abstract

A growing demand for measures towards smart, sustainable and inclusive growth has stemmed from a continuous challenging of the social and economic European environment. As a result, Research and Innovation have emerged as the key factors of prosperity and sustainability. The development of a benign environment would secure the prosperity of businesses (large and small- medium) and therefore, would increase the likelihood of the sustainable growth in Europe and in member- states. The increasing importance of Research and Innovation has added a new dimension to a university's role in society. An important component of this dimension is the interactive and collaborative relationship between academia and industry. In March 2012, the Open University of Cyprus has inaugurated a University- industry Liaison Office along with five other universities in Cyprus, supported by the European Social Fund (ESF) and the EU. This initiative aims to facilitate innovation in business and academic environment by promoting effective collaboration between the University and research, business, government and civil society entities in Cyprus. Some of the areas that would be embraced during this process are technology transfer, applied research and synergy building.

Keywords: Cyprus, University- industry Liaison Office, Entrepreneurship, Transfer of knowledge, university – industry co-operation

1. Research and innovation in the European Union and in Cyprus

1.1 Research and Innovation and the Europe 2020 Strategy

The demand for a sustainable and inclusive growth in the last 20 years enforced European policy makers to explore the impact of research and innovation on contemporary business and academic environments. In March 2010, the President of the European Commission José Manuel Durão Barroso, introduced the European Strategy for smart, sustainable and inclusive growth. “Europe 2020” aims at enforcing the economic prosperity of Europe in areas such as employability, entrepreneurship, research and innovation, technology transfer and education.

Five headline targets –representative of the three priorities of smart, sustainable and inclusive growth- have been initiated by the Commission along with seven flagship initiatives in order to ensure progress under each of the priorities. One of the headline targets proposed by the European Commission is the increase of the European Gross Domestic Product (GDP) dedicated to research and development (R&D) up to 3%¹. Currently, R&D spending in Europe is below 2%, compared to 2.6% in the United States and 3.4% in Japan, mainly as a result of lower levels of private investment. This is why Europe needs to focus on the impact and composition of research spending and to improve the conditions for private sector R&D. A European venture capital market will assist direct business access to capital markets and will provide incentives for private sector funds for start-up companies, and for innovative small- medium enterprises.

The flagship initiative “Innovation Union” aims at the development of innovative ideas into products and services that can create growth and jobs. In order to achieve this aim at a national level, the European member states will need to reform R&D and Innovation systems to foster excellence and smart specialisation, and to reinforce cooperation between universities, research and business (European Commission, 2010).

1.2 National progress towards Research and Innovation

Notwithstanding the European target of 3% by 2020, Cyprus has set as a national target to increase expenditure for R&D from 0,42% in 2008 to 0,50% of gross domestic product (GDP) by 2020. Although there was a 0.05% increase in total research expenditure reaching the 0.49% of the gross domestic product in Cyprus in 2009, the “Innovation Union Competitiveness Report” published in 2011 demonstrated a 25% difference in 2009 between Cyprus and the European Union on gross domestic expenditure on R&D (GDRD). With an average of 0.51%, Cyprus is placed at the lower levels in patent application under the Patent Cooperation Treaty (PCT) compared to the European average of 4% (European Commission, 2011a).

Public efforts to improve research and innovation in the last five years have resulted in the enhancement of capabilities but still, the feebleness of the business sector to undertake and invest in R&D activities did not affect the overall country performance significantly. In 2009, there was an 8% difference between the Cyprus and the European average regarding business enterprise expenditure on R&D (European Commission, 2011a).

¹ The 3% goal was agreed initially in 2002 by the Barcelona European Council which reviewed progress towards the Lisbon goal (Commission of the European Communities, 2002).

In 2008, the higher education institutes were the major actors in R&D with a share of 44% of GERD, while public sector's share was 23% and businesses' was 23% as well. Public investment represented 64% of the domestic spending on R&D (GERD) while business investment represented 18% and funds from abroad 15%. (Republic of Cyprus. Planning Bureau, 2011). Funds from abroad derived mainly from European Framework Programmes for Research and Technological Development and other European Research Programmes.

In 2009, there was an increasing trend of research organizations in Cyprus investing on research activities through the European Seventh Framework Programme (FP7) which reached 13, 7 million euros. The research area of Information and Communications Technology (ICT) was particularly successful during the period 2004-2009; reaching 43.8% of signed grant agreements in 2009. The growing capabilities in research and innovation within the framework of programs such as "Regional Competitiveness and Employment" and "European territorial cooperation" financed by the European Regional Development, were also beneficial for Cypriot research sectors for the funding period, 2007-2013. (Ευρωπαϊκές Κοινότητες, 2009).

It is remarkable that Cyprus ranks among the lowest performers among the EU Member States in terms of R&D expenditure as a percentage of GDP and at the same time ranks among the highest performers regarding Innovation (Republic of Cyprus. Planning Bureau, 2011). A consistent innovation policy has evolved rapidly and now Cyprus has upgraded from a "Catching-up country" in 2007 to an "Innovation Follower country" in 2009. Regarding the Summary Innovation Index (SII), ² in 2010 Cyprus showed a performance close to that of the EU27 (0,516) with a SII score of 0,495 which ranks Cyprus 12th among the 27 members of the European Union (EU27) (ibid).

2. Current Economic Situation in Cyprus

The vast number of small- medium enterprises (SMEs)³ in Cyprus has a high impact on the economy. According to the Statistical Register of Enterprises 2010, there are 60.217 enterprises registered in Cyprus. Almost all of these are small- medium with the meaning that they employ less than 250 persons whereas 93,1% of these SMEs employ less than 10 persons and are considered micro enterprises. The large companies represent 0.17% of the total number of enterprises. (Statistical Service of Cyprus (CYSTAT), 2010). According to the data of the Statistical Office of the European Union (Eurostat), in the year 2009 the majority of enterprises (SMEs) provided 83,5% of the total country employment while 91,8% of the micro enterprises provided 29,7% of the country employment (European Commission, 2011b).

The Small Business Act (SBA) Fact Sheet 2010/2011 about Cyprus shows that SMEs are particularly strong in "Entrepreneurship", "Public Procurement and State Aid" and "Skills and Innovation". Regarding access to finance, the SMEs have an overall sufficient access to credit despite cash flow situations and the fact that public financial support from EU funds - not only regional, but also structural ones- are focused much less on SMEs in Cyprus than in the European Union (EU) on average. (European Commission, 2011b).

² The Summary Innovation Index (SII) gives an "at a glance" overview of aggregate national innovation performance. The SII is calculated using the most statistics from Eurostat and other internationally recognised sources.

³ "SME" stands for small and medium-sized enterprises – as defined in European Union's law (European Commission, 2003).

3. The importance of the liaison between academia and industry

A link between academia and industry is necessary for the establishment of an alliance between them and that link can be the university- industry liaison office. The liaison office can play a vital role in the sustainability of the collaboration between the two societal forces in order the industry to support academia by providing financial tools and the university to supply the industry with scientific and technological resources for the productive functioning of business.

The relationship among academia and industry can abide an improved research development. Innovative ideas and experiences originated from the collaboration of the two societal segments are important for the implementation and integration of research activities. The linkage between academia and industry may result in an increased interest of businesses to invest on research. An increase in research funding may lead not only in research growth but also in R&D sustainability. More funding by external stakeholders can result in an increase of professors' academic effectiveness (Gulbrandsen & Smeby, 2005 in Manjarres-Henriquez et al., 2009), in high- technology equipment, skilled teaching and top class training that can be used to solve industrial problems (Jones- Evans et al., 1999).

One of the key elements stemming from a potential affiliation of university and industry is the transfer of technological knowledge to the stakeholders. The development of scientific research (in the form of science and technology parks) and entrepreneurship (in the form of business incubators) is an example of prosperous collaboration between the two spheres. (Fassin, 2000).

Jones-Evans et al. conducted a research on the role that the universities, and more specifically their industrial liaison offices, play in the regional economic development in Sweden and Ireland and they concluded that the partnership between academia and industry may lead to considerable dissemination of scientific and technical knowledge, especially into the small enterprises sector. This could be of particular benefit to smaller peripheral economies. The authors see the industrial liaison office of the university as part of the pro-active role that the university can play in developing strong associations with industry. (Jones-Evans et al., 1999).

Given that a university is active in a variety of academic fields of study, research areas and proficiency, the university- industry liaison office is a sine qua non element of any modern university in order to transfer information to external stakeholders regarding the university's functions and capacities. The university - industry liaison office promotes the University's activities in an attractive way, so as to increase the stakeholders' interest. The Liaison Office supports the marketing strategy of the university both externally and externally. Some of the marketing approaches might include the dissemination of the University's activities to the general public, systematic writing and publishing of scientific articles and their provision not only in scientific journals, but also in the media.

4. The project "Development and Operation of Enterprise Liaison Offices in Universities Operating in the Republic of Cyprus"

4.1 The National Framework of the project

The project titled "Development and Operation of Enterprise Liaison Offices in universities operating in the Republic of Cyprus" (from now on referred as the project) is implemented under the "Operational Programme for Employment, Human Capital and Social Cohesion, 2007-2013" (from now on referred as the programme) which specialises the National Strategic Reference Framework (NSRF). The strategic objectives of this Programme as they are presented in the context of a wider strategic

framework include “full and quality employment, development of human capital and strengthening of social cohesion and equal opportunities conditions” (Republic of Cyprus. Planning Bureau, 2008). The focus is at developing human capital and facing the structural weaknesses of the labour market, focusing on upgrading the skills of certain population groups and thus promoting them to employment.

The project is implemented under the first priority axis of the Programme with the title “Human Resources Development and Adaptability”. With a budget of more than 86 million euros (European Commission, 2012), this axis represents the general objective “Improvement of Human Capital and Increase of the Adaptability of the Private and Public Sector”. The first axis targets in the adaptability of administrative and productive operations of enterprises to the new market fundamentals. The aim is to redirect educational knowledge and skills towards skills of a higher level which are required by the wider economic framework. The key factor for adaptability in the economy’s demands is the embracement of new technologies and innovations, new forms of work organization and the upgrading of the skills of the workforce. Strengthening lifelong learning serves as a solution for continuous adaptation of skills and knowledge to the rapidly changing demands of economic activities.

4.2 Profile of the Project

The project “Development and Operation of Enterprise Liaison Offices in Universities Operating in the Republic of Cyprus” refers to the development and the operation of university- industry liaison offices (from now on referred also as liaison offices) in each of the six universities operating in the Republic of Cyprus in 2008. The project is funded by the European Social Fund⁴ and national resources with a budget of €3.104.793. A consortium of six universities with the University of Cyprus as the coordinating partner will implement the project for a five years period (2009- 2014). More than 18 qualified individuals are working exclusively on the project implementation.

All sectors of the Cypriot economy, higher education institutions, researchers and university students are expected to benefit from the implementation of the project. The liaison offices aim at improving communication and cooperation between universities and businesses on issues such as: technology transfer, provision of solutions of specific problems in industry, student internship placements and the promotion of innovation and entrepreneurship in general.

The main strategic objectives of the project consist on the development of a network of model university- industry liaison offices, the technology transfer from academic institutions to Cypriot businesses and the improvement of university students’ employability⁵. The objectives include the investigation of the Cypriot industry’s need for technology transfer; the evaluation of the contribution of the academia in Cyprus to meet these needs; the promotion and development of practical methods of cooperation to bring mutual economic (and social) benefits to universities and businesses; the ex-

⁴ “The European Social Fund (ESF)”, set up in 1958, contributes to the integration into working life of the unemployed and disadvantaged sections of the population. The ESF focuses on four key areas: increasing adaptability of workers and enterprises, enhancing access to employment and participation in the labour market, reinforcing social inclusion by combating discrimination and facilitating access to the labour market for disadvantaged people, and promoting partnership for reform in the fields of employment and inclusion.

⁵ “Employability” refers to a person's capability for gaining and maintaining employment (Hillage and Pollard, 1998). The European Union declared the promotion of employability an important task for (vocational) education in the context of the Lisbon agenda in order to make the EU the world’s most competitive knowledge society (COM (2003) 685 final, 2003). It involves changes in skill requirements, increasing flexibility of labour market structures, a diversification of job profiles, and the globalization of markets.

amination of alternative forms of students training to improve their employability; the promotion of an economy based on the concept of partnerships with local industry; the promotion of intellectual property protection the preparation procedures for patent registration; the active cooperation with stakeholders capable to support innovative/ technological entrepreneurship; the development of educational materials and finally the reinforcement of the entrepreneurial culture in general.

The initiative is accompanied by dissemination measures so as to inform the Cypriot business community and the public regarding the work undertaken by the liaison offices and the subsequent benefit of funding by the European Social Fund (ESF) to the Cypriot society.

4.3 The significance of the Liaison Offices for the Republic of Cyprus

The project "Development and Operation of Enterprise Liaison Offices in Universities Operating in the Republic of Cyprus" generates conditions for cooperation between the academic and business communities of Cyprus. The current situation regarding the cooperation of the business and academic sector is far from the desired level, both in terms of adaptation of university curricula to labor market needs, and in terms of collaborative research (where conditions are particularly difficult due to the very small size of the Cypriot enterprises). The business sector in Cyprus lacks the capabilities to supply financially the research field. (Republic of Cyprus. Planning Bureau, 2011). The project is expected to have a positive result in the field of business participation in research and technology development (RTD) with a view to the increase of business productivity. It is also expected to contribute significantly not only to the European Community added value and the overall Lisbon Strategy⁶, but also to the overall purpose of the European Social Fund. In particular, it is estimated to contribute with a significant amount of resources available; to promote the adaptability of enterprises and their links with higher education and to broad the resources available from other projects co-funded by the European Social Fund and the European Regional Development Fund. Specific procedures of the implementation phase of the project such as (a) the cooperation and partnership, (b) the planning and implementation of developmental interventions at all levels and (c) the multiannual programming, monitoring, evaluation and sound financial management are expected to affect the qualitative and quantitative added value of the overall system of the Structural Funds^{7, 8}.

The project contributes directly to the strategic goal "human resources development and strengthening social cohesion and equal opportunities" of the National Framework but also indirectly to the employment growth by improving business competitiveness and by enhancing the university students' and graduates' employment opportunities and their access to research projects in collaboration with companies; which could also lead to long term employment. At the same time, the project promotes cooperation between enterprises and universities, in order to foster innovation and research and technology development widely (mainly through the utilization of the National Framework Programmes for Research, Technological Development and Innovation of the Research Promotion Foundation and the use of national resources.

⁶ The Lisbon Strategy, was an action and development plan for the economy of the European Union between 2000 and 2010 set out by the European Council in Lisbon in March 2000. Its aim was to make the EU "the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion", by 2010.

⁷ The Structural Funds are parts of the financial tools set up to implement the Cohesion Policy also referred to as the Regional policy of the European Union. They aim to reduce regional disparities in terms of income, wealth and opportunities.

⁸ Technical Description of the project "Development and Operation of Enterprise Liaison Offices in Universities Operating in the Republic of Cyprus".

More broadly, the project facilitates collaboration between Cypriot Universities and sociocultural, industrial bodies. Specific actions (such as the establishment of an important network and industry problem solving) taken during the project's progress foster industry competitiveness.

As a final point, we would note that the project's sub-action regarding internship placement of university students and graduates is totally within the policy areas of the European Social Fund since it promotes growth and employment, economic and social cohesion, equal opportunities for all and social inclusion which is also a horizontal (European) Community priority.

5. The Liaison Office of the Open University of Cyprus

5.1 The profile of the Open University of Cyprus

The Open University of Cyprus (OUC) is a state university and the only institution of higher education in Cyprus which offers recognised academic programmes at all levels (undergraduate, master's and doctorate) using the methodology of distance education. The OUC consists of three faculties: the Faculty of Humanities and Social Sciences, the Faculty of Pure and Applied Sciences and the Faculty of Economics and Management. The Open University of Cyprus is oriented both in the domestic and the international educational communities and their activities and goals. During the academic year 2011- 2012, the University has an enrolment of over 2500 students and has already developed ten, dynamic study courses.

The Open University of Cyprus provides distance education to adults the majority of which are already employed. Therefore, it has a substantial lead in the liaison with the industry through the direct contact with the students who are already part of the business world. The liaison office is oriented in the development of these contacts for the effective communication between the University and businesses as far as students' internships and research collaboration are concerned.

5.2 The Liaison Office team

The material infrastructure and the profile of the personnel of the liaison offices were standardized prior to the recruitment and the training of specialized personnel for each university- industry liaison office. The project team of each liaison office consists of five people. Each university has appointed one person to be in charge of the project and to represent the university in the consortium of universities participating in the project. In the Open University of Cyprus, the person in charge is the head of the student welfare services. The project manager, the assistant project manager and the secretary of each liaison office were recruited by the procedure of public procurement.⁹ The company they represent has a contract with the University to provide specific services and deliverables for a period of three years (March 2012 to April 2015). Each university has also assigned one university officer to be responsible for the cooperation between the personnel of the liaison office and the university. In the case of the Open University of Cyprus, this role has been undertaken by a research & liaison officer.

5.3 The Goals

The goals of the liaison office at the Open University are divided into short-term, medium-term and long-term according to the time schedule of the overall project. Short-term goals included the planning of procedures, the creation of supportive template documents and the research of resources

⁹ Public procurement for their own purposes by government and other public entities and institutions at national and local level represents a very important portion of total public expenditure in the European member states and thus has an important role in domestic economies.

necessary for the office's operations. More goals concern the preparation of information material regarding the functions of the liaison office of the OUC, the dissemination of these materials in the university community and the "mapping" of the university. The mapping of the university was accomplished by recording all information regarding faculty's professional experience and research activity. Medium-term objectives are related to the actual liaison with the industry. Desk research will be completed prior to the meetings with managers and executives of companies and organizations. Extended databases will be updated with all related information. In parallel, the office will also support non-research activities such as the provision of continuing education training programs. The liaison office will also operate as the career center of the OUC.

Long term, the liaison office will support the transfer of technological knowledge and innovative ideas and the provision of advisory services to the industry.

5.4 The Deliverables

Following the rules of every project co-funded by the European Social Fund, the outputs of the university-industry liaison office's operation are monitored and evaluated on the basis of tangible objects in the form of deliverables. The deliverables are evaluated on a monthly basis.

The first deliverable was concerning the establishment of a strong relationship between the office and the University. An initial acquaintance with faculty members and laboratories operating within the university facilitated the liaison office to present its capabilities and to become fully informed about the university. The liaison office encompasses a twofold marketing role that follows internal and external procedures. The campaign of the research potential of university to the industry is a form of external marketing. The promotion among faculty members of the role of the liaison office in the increase the university's competences in the market requires internal marketing processes. In order to follow effectively internal marketing approaches, the liaison office was engaged in initial discussions with faculty members about the possibilities of an effective link between the university and industry. The first step to accomplish this task was the mapping of the university. The professional and research profiles of all members of academic staff were recorded with the method of the standardized semi-structured interview. During the interviews, the personnel of the liaison office discussed with the academics about their general and specific research fields of expertise, their experience in consultation and other forms of cooperation with social, cultural and productive entities in general. Finally, the academics were asked to provide suggestions, based on their expertise, on developing ways of future cooperation with social, cultural, productive entities and to indicate specific industry stakeholders in which they foresee possibilities for cooperation.

Data were also collected about the research projects currently conducted by faculty members as well as information regarding each research team. The list of the research programmes include projects funded by the Open University (internal research projects) and projects with external funding resources (national, European and/ or international). Moreover, detailed records were created about the laboratories operating in the university including fields about each laboratory's material infrastructure and scientific operations. Following the completion of the university mapping process, the liaison office generated for each faculty member an individual profile which contains all the information gathered during the interviews. The office also developed databases about liaison fields and needs, working teams, research projects and laboratories.

Another deliverable of the liaison office was the creation of detailed contact records of all media (newspaper, magazines, television and radio) in Cyprus with a focus on the journalists covering academic and European subjects. The main goal of this deliverable was the establishment of communication with the media so as to advertise the activities of the liaison office and to inform the general public about the university's achievements in the liaison with the industry.

As part of a dissemination strategy, the liaison office was decided to participate in business and scientific conferences. The participation of the liaison office in conferences has a major impact on how the liaison is presented to external (businesses) and internal (university faculty) stakeholders. The team of the liaison office presented a paper on “The Operation of an Industry Liaison Office at the Open University of Cyprus” in the “East-Meets-West on Innovation and Entrepreneurship Congress and Exhibition” organised by the European Office Cyprus to promote and implement new tools of effective collaboration between business and academia. This paper presentation at the EADTU’s (European Association of Distance Teaching Universities) conference on “The role of open and flexible education in European higher education systems for 2020: new models, new markets, new media” here in Paphos is the second scientific presentation of the liaison office’s team. The liaison office also participated in the 5th national Conference on “Corporate Social Responsibility”. Important networking with stakeholders from the industry was achieved during the conferences.

The dissemination strategy is also assisted by the website that demonstrates the activities of the liaison office and enables the sharing of information and tools. On the website, graduate students can find useful information regarding post graduate studies in universities around the world. The website also serves the focuses in career advisory issues, such as job seeking techniques and tools such as templates for different types of curriculum vitae (CV) and related guidelines.

Following the success of its Independent Modules & Short-Term Vocational Programmes, the Open University intends to become more actively engaged in the field of training. The liaison office was assigned to conduct a research on the possible structure of a new legal entity or department which will perform as a training center within the university. The deliverable was a set of guidelines for the establishment either of a non-profit company or a non-governmental organization. Moreover, the liaison office collected the official documentation necessary in each case.

In order to facilitate the creation of a strong network of cooperation between university and industry, the liaison office developed the tools necessary for the administration of the liaison activities. Some of these tools are the databases of contacts within the industry, the guidelines for the approach of stakeholders and a set of template forms for recording the operations and needs of the industry. These templates incorporate fields such as the description of business activities¹⁰ and operations, business capacity, areas of possible cooperation, business needs regarding counseling services, information related to intellectual property protection and the procedure for patent registration and finally potential internship positions.

Conclusion

Education, research, innovation and technology transfer are vital factors contributing to the establishment of a prosperous economic environment in Europe. The university- industry liaison office of the Open University of Cyprus aspires to facilitate all the above factors in academic and business environment by promoting a fruitful partnership between the university and research, business, government and civil society entities in Cyprus.

¹⁰ The classification used is the Statistical Classification of Economic Activities in the European Community (in French: Nomenclature statistique des activités économiques dans la Communauté européenne), commonly referred as NACE which is a European industry standard classification system.

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