

### **1) Name of the author and Institution**

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### **2) Theme**

Universities as interactive partners

### **3) Title**

Promoting innovation and University-Business relationships in the Algarve region

### **4) Keywords**

Innovation, Entrepreneurship, Technology transfer, Regional Development, Triple Helix

### **5) Abstract**

Science and technology have become increasingly important to regional development (Braczyk, 1998). In this sense, Universities have a significant role to play in the local economy (Love, 1988; Bleaney, 1992), whether direct or indirectly, not only in creating and disseminating knowledge and training human resources, but facilitating the interaction between knowledge and industry (Bozeman, 2004). Knowledge transfer, whether direct or indirect, include tacit and codified knowledge (Polanyi, 1967), posing a challenge and an opportunity to Universities.

Theoretical approaches in the context of innovation, like “Triple Helix”, place the density of relationships between university, industry and government in the center of the innovative process. The model stresses the importance of Universities in innovation, since a crucial part of R&D is carried out by these institutions. Portuguese Universities have formalized in the last years an active strategy towards the implementation of an effective linkage between University and Enterprises. Sustained and encouraged by national public initiatives, and composed by qualified human resources, universities have consolidated technology transfer units directed to the education, promotion, and support of entrepreneurship as well as to the transfer and commercial approach to knowledge and technology, encouraging and supporting the creation and development of spin-offs generated from R&D generated in the academy. From specific regional gaps, some universities have developed specific programs aiming to increase tech-based start-ups and spin-offs. In many cases, these policies have been consolidated inside the formal structures of the universities in 2009, from the definition of the new Legal Regime for Higher Education Institutions (RJIES) proposed by the Ministry of Science, Technology and Higher Education (MCTES). At a regional level, the University of Algarve (UALG) has anticipated national policies to support knowledge based entrepreneurship (NEOTEC) and technology transfer (OTIC), by developing in 2003 an internal structure focused on these topics. Created from a partnership between the University of Algarve (Research), CCDR Algarve (Government - Regional Authority for Planning and Coordination) and ANJE Algarve (National Association of Young Entrepreneurs) and NERA (Business Association of the Algarve Region) - (Industry), as an answer to identified problems in the region (gap between research and enterprises and adverse environment to innovation), the Algarve Regional Centre for Innovation has played a crucial role in promoting innovation and entrepreneurship in the region, connecting the majority of economic agents towards a regional innovation system. Now, as a formal unit of the

University of Algarve, the Division of Entrepreneurship and Technology Transfer (CRIA) is a key player in the development and implementation of a regional innovation policy. The planning and implementation of sustainable initiatives, built on triple helix model cooperation's and materialized on specific programs directed to the promotion of Intellectual Property Rights mechanisms, Entrepreneurship Support, and Technology Transfer and Commercialization, have resulted in an increase of patents with potential commercial value registered in the University, in new and innovative start-ups and spin-offs competing in international markets and employing qualified human resources, and to new R&D partnerships with exiting companies. By working actively on technology transfer and entrepreneurship, and assuming a central role in the University – Industry- Government relations, Universities are contributing for the reduction of the knowledge gap, intermediating the needs and resources of the economic agents, and promoting the development and competitiveness of both the region and its economic agents. The outcome of the actions developed by this agent is a more innovative, competitive and entrepreneurial economy, where the policies and goals of the different economic agents (University/Industry/Government) are aligned, reducing the gap between research and market. This paper analyzes the framework on which Universities, namely the University of Algarve, promotes an active role in the valorization and commercialization of knowledge, whether tacit or codified, not only for financial income, but also as a strategy to promote regional development and employment, joining research, government and industry agents. Acting on the results of CRIA as an interface agent implemented in a region highly characterized by the tourism sector, and with a strong historical deficit of interaction between the territorial agents, we aim to prove that the triple helix model, guided by or with the assistance of a relevant research agent, is a viable methodology to promote economic regional development and competitiveness.

Spin-off companies are born with a larger potential scope, assuming national or international markets. Also, these entities can act as an entrepreneurial boost on academia, representing good practices and potentially creating high value for the regional economy, generating local employment, and in particular high skilled employment. As for start-up companies, represent a good alternative for active Universities willing to play an important role in the regional economy and promoting its relations with industry, but who fail to have a large IP portfolio (codified knowledge) for commercialization. Start-ups are usually characterized as smaller companies with a more direct business model. Also, the employment creation tends to be essentially local, valuing tacit knowledge, and acting more efficiently on regional development and employment.

By stimulating academic entrepreneurship in cooperation with all regional agents, based on both tacit and codified knowledge, a potentially growing number of spin-offs and start-ups may be created, acting as a positive impact on the creation of skilled jobs in the local economy and promoting the international recognition of the research base of the university.

The University of Algarve has been an active player in the areas of entrepreneurship and technology transfer, anticipating trends and adapting to the national and European policies on innovation and regional development, exceeding its role as academia and fully adopting the third mission as a way to act on the region, assuming a leading part in the triple helix model, serving as an intermediary between knowledge, industry and government. The University has fully supported in the last years an active policy towards entrepreneurship and innovation, developing the creation of knowledge based spin-offs and start-ups, and bridging the gap between university, industry and government. This change has resulted in a growing number of joint ventures among University researchers and existing companies towards the development of new products and services, as well as to the creation of a high number of new knowledge based companies. Also, the networks developed, and the outputs obtained since

2003 have gained the recognition of the entrepreneurs at a regional level and attracted partners in both public and private sector, namely Venture Capitalists, Business Angels, Business Associations, Science Parks, Public Agencies or Municipalities, aiming to enhance the creation of these companies, and supporting companies and entrepreneurs in areas such as financing, location an incubation, licensing, coaching, and networking.