

KNOWLEDGE SPILLOVERS WITHIN THE ALGARVE TOURISM REGION. EVIDENCE TO IDENTIFY A REGIONAL INNOVATION SYSTEM

SPILLOVERS DO CONHECIMENTO NO TURISMO DA REGIÃO DO ALGARVE

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ABSTRACT

Studies of local knowledge spillovers have often focused on empirical evidence for core regions, and been related largely to manufacturing, neglecting behavior in less innovative economic sectors in peripheral regions. Tourism in the Algarve region is the main engine of its regional economy. Although frequently considered as a low-moderate innovative sector, competitive tourism firms are becoming increasingly Knowledge Intensive, which may create positive advantages for regional growth. This may improve conditions for the creation and diffusion of knowledge, with cooperative and collaborative interaction contributing to the consolidation of a regional innovation system (RIS). The goal of this study is to provide preliminary evidence of the main sources and vehicles of regional knowledge spillovers affecting tourism firms in the Algarve, generally considered to be a peripheral region. The main sources of knowledge used by micro and small tourism firms (MSTF) are human resources and formal and informal networks. This study detected specific features of a regional innovation platform which, eventually, may give way to a RIS.

Keywords: Tourism, Innovation, Knowledge Spillover, Knowledge Intensive Services, Regional Innovation System, Algarve Region

RESUMO

Muitos estudos sobre divulgação de conhecimentos locais, geralmente elaborados com base na evidência empírica das regiões centrais, tendem a negligenciar comportamentos em sectores económicos menos inovadores das regiões periféricas. O caso estudado aponta o Turismo na região do Algarve como sendo o principal motor da economia regional. Embora frequentemente considerado como um sector pouco inovador, as empresas de turismo têm vindo a tornar-se mais competitivas, mais ricas em conhecimento, o que pode criar vantagens positivas para o crescimento regional. Melhorando as condições para a criação e difusão de conhecimento, com a interação cooperativa e colaborativa provamos que é possível contribuir para a consolidação de um sistema regional de inovação (RIS). O objetivo deste estudo é fornecer evidências sobre as principais fontes e veículos de divulgação de conhecimentos regionais que afetam as empresas de turismo no Algarve, geralmente considerada como uma região periférica. As principais fontes de conhecimento utilizadas por empresas de turismo, de micro e pequenas dimensão, são os recursos humanos e redes formais e informais. Este estudo detetou características específicas de uma plataforma regional de inovação, que, eventualmente, pode originar um RIS.

Palavras-chave: Turismo, Inovação, Spillover do Conhecimento, Conhecimento Intensivo em Serviços, Sistema Regional de Inovação, Algarve

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1. INTRODUCTION

In the last two decades, an extensive body of theoretical literature and research related to regional innovation systems (RIS) has been developed, demonstrating how evolved economic and cultural processes may support the generation of innovations in leading and high-technology core regions. RIS have commonly been considered as an open social and economic system with institutional behavioral support in which innovations result from interactions between organizations and the systematic use of accumulated local knowledge and learning (Isaksen, 2001; Evangelista, *et al*, 2002; Cooke, 2003; Cooke, *et al*, 2007; Asheim & Coenen, 2004; Asheim, *et al*, 2011; Bracayk, *et al*, 2004; Doloreux & Parto, 2005).

However, the operation of RIS in peripheral and small and medium-sized regions, with low technology innovation systems, requires more empirical evidence (Wiig, 1996; Andersson & Karlsson, 2004). Current research shows that RIS in peripheral regions are characterized by a less developed cultural and economic environment for innovation. They also lack a critical mass of activity supporting institutions and organizations, including networking among regional agents and interactions with external innovative hotspots. Industrial patterns are dominated by less developed low-technology clusters, mostly comprising small and medium enterprises (SMEs) with low absorptive capacities. Innovations are more related to incremental and process innovations, since firms are more inclined to adopt and receive technical knowledge than to act as a diffuser of novel knowledge. In this context, learning-by-doing and learning-by-using are more common processes in generating new local knowledge (Tödtling & Trippl, 2005; Doloreux & Dionne, 2008; Asheim & Isaksen, 2000).

In accordance with the characteristics of peripheral or non-core regions identified by Legendijk and Lorentzen (2007), the Algarve region is therefore still dependent on a low-technology tourism industry that commonly generates only incremental and process innovations. It is also quite isolated in relation to Portuguese and European metropolitan areas, knowledge sources, R&D expenditures and high technology agglomerations. In this context, it offers a timely case study of a peripheral region in rural surroundings, with low population and education levels, focusing especially on the development and effects of regional, national and international linkages among the key regional agents (Huggins & Johnston, 2009). In this same context, the region also offers the possibility of considering whether tourism firms may act as knowledge intensive services (KIS) (Sundbo, 2010). Although more detailed information may be needed, as a first step, it may be of interest to understand the different mechanisms used by tourism firms to absorb, utilize and generate new knowledge at a regional level in order to increase competitive advantages and maintain and capture new markets.

Many industries involving tourism, some more than others, have had to move further toward a more intensive utilization of knowledge while at the same time providing and diffusing knowledge to other organizations and customers in order to solve specific problems, deliver high quality products and have a wide range of competitive services around the world and in Algarve specifically, has experienced an increasing demand and growth. Tourism is the

main economic income in Algarve featuring a well developed, productive net of firms around all sub-sectors that participate in this economic activity.

The main objective of this study is therefore to determine the importance of local knowledge spillovers among regional organizations and tourism firms in the Algarve region, and the role played by the regional innovation platform as in increasing competitiveness. The main sources of knowledge are identified, highlighting the capabilities and absorptive capacities of firms, as a basis for moving toward a KIS-based tourism industry seeking to improve business opportunities.

2. TOURISM INNOVATION, KIS AND KNOWLEDGE SPILLOVERS

“Services” have become fundamental to modern economies, providing an important source of employment, productivity and economic development, while also acting as an interconnector and facilitator for the development of other economic activities. The specific subgroup of KIS has been studied from different perspectives (OECD, 2007; Müller and Doloreux, 2007; Miles, 2008a; Rubalca, *et al*, 2010), giving rise to different conceptual approaches and definitions depending upon the focus and type of service firms. Important inputs from the analysis of KIS may be used to understand the tourism Industry.

Merino and Rubalcaba (2006) maintain that the primary causes of the increasing importance of KIS are linked to the consolidation of a knowledge based society. Adopting a knowledge perspective to understand patterns of innovation in services, as suggested by Miles (2008a, 2008b), the tourism industry is increasingly characterized by KIBS features. This is especially noticeable through the dependence of tourism on human qualities, with employees focused on problem-solving/client-firm interactions, professional and specialized knowledge in relation to the use of information and communications technologies (ICTs) and reliance on tacit knowledge, including “experience”. Miles (2008b) has classified tourism as a KIS, even though the main economic activities generally linked to tourism, including hotels, restaurants, catering, transport services and travel agencies, are usually associated with “less knowledge intensive” market services.

In a RIS context, it is recognised that KIBS play an important role as intermediary players, promoting innovations through outsourcing and collaboration activities (Howells, 2006). They may act as node functions in the creation, diffusion and implementation of knowledge, essentially through face to face communication and the diffusion of tacit and localized knowledge among regional agents supporting learning by interaction (Doloreux, *et al*, 2008; Thorsten & Böhn, 2003; Koch & Stahlecker, 2006). Rubalcaba, *et al* (2010), emphasises that innovations in the service sector should be assessed in the context of the interactions and interdependencies of innovation systems. The characteristics of KIBS are important in understanding the dynamics and evolution of RIS, acting as suppliers of expertise to other firms, promoting and helping them in the innovation process (dos Santos Ferreira, 2010).

Hjalager (2002) argues that, although the tourism industry displays various obstacles to knowledge transfer hampering innovation processes, including low-skilled employees, four main sources can be identified that identify channels of knowledge transfer: a) Trade systems, cof knowledge embedded in associations or tourism organizations and transferred in conferences, forums, sector surveys, etc; b) Technological systems: knowledge embedded in technologies, c) Infrastructural systems: knowledge embedded in free goods and, d) Regulation systems, knowledge embedded in regulations or mandatory actions promoting innovation.

Although some have portrayed tourism as a sector with a low capacity to develop innovation systems, others have identified tourism innovation systems, including institutional innovation based on collaboration and spin-offs between highly interrelated agents. In this, each may take different roles, some acting as drivers of the process and others assuming more peripheral functions, creating synergy and mutual benefits. In this process, firms take advantage of externalities and other innovation system outputs (Hjalager, 2010b). Prats, *et al.*, (2008) have focused on the evolution of tourism destinations using a model approach based on tourism innovation systems, adding evidence on the generation of social networks and the distribution of benefits among firms.

2.1 Sources and Vehicles of Knowledge Spillovers

The last few years have stressed the importance of adopting a cluster approach to the study of the tourism industry to analyse issues of regional specialization through innovation and knowledge management by tourism firms (a complete bibliography revision can be found in Hall & Page, 2008; Hjalager, 2010a). However, only incipient research initiatives have tried to understand tourism from a RIS approach, emphasising the need for new evidence (Sundbo, *et al.*, 2007; Hjalager, 2010b).

Many of the new, marketable ideas about products or services offer a mixture of tacit and explicit knowledge (Shaw & Williams, 2009). Since innovation by firms is crucial in gaining new markets and more competitiveness. It is important to support their capabilities to generate, absorb and use knowledge in producing more and better products and services (Cohen & Levinthal, 1990; Noronha Vaz & Nijkamp, 2009). Although some authors have noted the low capacity of small firms to absorb knowledge and information, because of their low proportions of skilled workers and high labour mobility (Sundbo, *et al.*, 2007), other studies have stressed the capacity of some tourism firms to gain knowledge both from tourism and other economic sectors (Plaza, *et al.*, 2010).

The main models of innovation in tourism and services (Decelle, 2004; Cooper, 2006; Hertog, den, *et al.*, 2006), including variable reflecting knowledge spillovers, categorise different dynamics separately as vehicles and sources, depending on their direct or indirect capacity to influence innovation in firms. Regional variables have a major impact in these processes because they are used by firms as free externalities produced by high regional specialization in tourism. Considering processes of knowledge transfer in peripheral tourism regions, the Shaw and Williams model (2009) examines indirect diffusion and the direct transfer of knowledge in tourism, as well as the knowledge spillovers studied by Hjalager (2002) and Sundbo, *et al.* (2007), and variables utilized in studies of other economic sectors such as labour mobility and formal-informal networks (Kesidou & Romijn, 2008; Boshuizen, *et al.*, 2009). The central idea of this categorization is that firms take advantage of accumulated knowledge as a result of regional concentration and specialization in tourism activity and that these processes could be further developed, directly or indirectly.

This paper focuses on the role, linkages and knowledge spillovers currently shaping the “regional innovation platform” in the Algarve. A regional innovation platform consists of innovation patterns supporting low levels of evolution of an “emerging RIS” (Chaminade & Vang, 2006, pp. 11), “*where some of the building blocks of the RIS are in place but where the interactions among the elements of the RIS are still in formation and thus appear fragmented*”. On the other hand, knowledge spillovers are seen as the prime source of agglomeration economies and innovation systems (Caniëls & Verspagen, 2001). They support the diffusion of knowledge from where it is created or from one agent to another. This is how it becomes useful and acquires societal value (Stough & Nijkamp, 2009). In this context, we examine how specialized tourism knowledge is diffused in the Algarve region and the extent to which these processes may contribute to the evolution of an Algarve RIS.

3. METHODOLOGY

In this work we seek to obtain preliminary perspectives about KIS and knowledge transfer processes in building a RIS in a peripheral region based on tourism. The Algarve region of Portugal was selected as a suitable case study. It is located in the southern part of the country and occupies approximately 5% of continental Portugal, with a total area of approximately 5.000 km². In the 1960s, the Algarve became popular as a tourism destination for North European countries, and a good place for retirement and second or vacation homes. Although beginning as an up-market destination, it progressively lost this characteristic, mainly as a result of inefficient tourism planning. In the 1980s the number of arrivals grew rapidly, but in the 1990s, there was a marked slowdown due mostly to high prices, making the region less competitive for its particular types of tourist compared with Spain.

Over a long period policy-makers recognized tourism as the best base to ensure continued growth in the region. Indeed, in spite of its extreme dependence on tourism, regional GDP has shown continued growth, with a significant impact on urban growth and a steep rise in real estate prices. In 2008, around 200 km² of land was urbanized from which about 50 km² for tourism activities (CCDR Algarve, 2007).

In 2007-8, tourism generated 10.5% of the total GDP of Portugal and contributed 8 per cent of employment (OECD, 2010). In the Algarve, tourism contributed 47 per cent of the regional GDP and 35.4 per cent of the total national overnight stays (INE, 2008a). The population employed in the service sector reached approximately 72% of total employment, highlighting the structural importance of tourism activity in the region (INE, 2008b).

This research applied a case study approach to the Algarve, and a qualitative methodology of analysis (Yin, 2003; Clark & Fast, 2008; Phillimore & Goodson, 2004):

- Information was collected from 20 semi-structured and extensive interviews with major regional stakeholders between February and April 2011. A flexible interview guide with open questions was used to gain depth in the responses.
- Regional dynamics and innovation behaviour in tourism firms were first categorized into specific research topics and then integrated. This procedure was designed to develop preliminary conclusions about tourism dynamics in this peripheral region, in the absence of fuller data evidence.

The use of open interviews therefore sought the formal views of regional stakeholders, usually shaped by their legal and organizational perspectives. The method nevertheless shed light onto how institutional-social systems have developed in the Algarve region, and how far key regional players are linked. The twenty interviews included representatives of five regional business associations, one regional non-governmental organisation, five public organizations supporting innovation, four tourism organizations, two municipalities and three educational organizations, of which two were universities. The results provided insights into regional tourism strategies and innovation practices at the micro level.

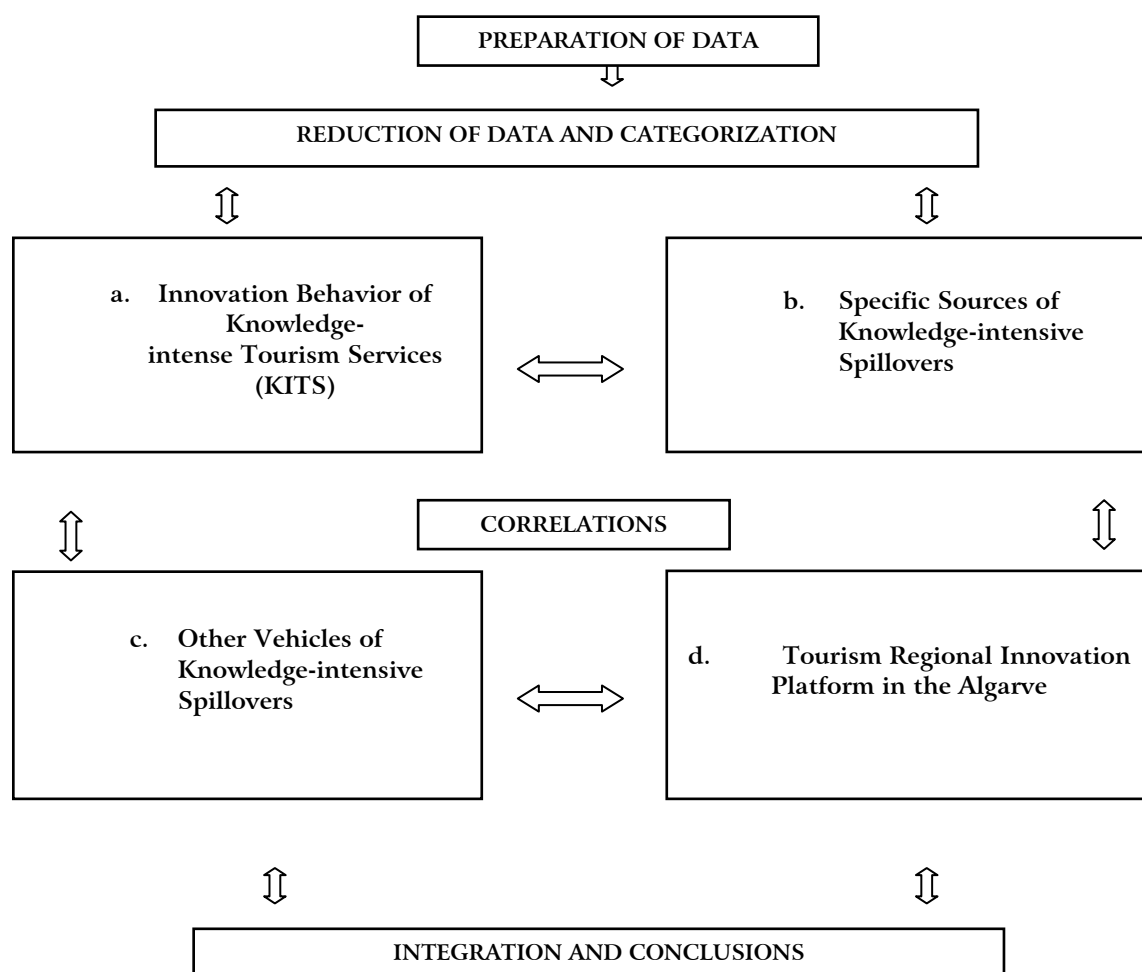


Figure 1: Organization of a content analysis method

The interviewees were chosen because of their direct access to relevant information and specific knowledge, but a regional perspective was encouraged to stress links among different topics, including knowledge transfer, the roles of business associations, interactions between large and small tourism firms, and specific innovation efforts.

The resulting primary information was studied through content analysis using the ATLAS.TI software tool. The resulting texts were analysed through the classification and categorization of specific topics and sub-topics, allowing direct correlations to be found relating to research goals, patterns of common expression and key differences about key points. The information was analysed according to the methodological model set out in Figure 1, integrating 20 different perspectives around the four topics. These were finally combined with secondary information to support the main research findings and conclusions.

4. DISCUSSION AND EVIDENCES

A) Innovation behaviour of Knowledge Intense Tourism Services (KITS)

There is an important lack of statistical information about innovation activities among tourism firms in the Algarve. However, according with a common vision collected with the interviews, public tourism organizations and regional business associations stress the important differences between the large, international tourism companies and the greater number of Micro and Small Tourism Firms (MSTF) in the region, especially when considering

innovative behaviour, regional business networks, market share, inter-firm linkages and territorial impacts:

- The MSTF are commonly based on obligatory or necessity entrepreneurship and familiar subsistence related to entertainment, tourism accommodation, travel agencies, restaurants, natural and cultural tourism business, etc.
- The large companies, however, belong to international hotel chains and tour operators, linked to the region through local travel agencies. The large hotel chains have investments in the country and around the world, supporting systematic innovation activities, modern business structures and innovative processes of marketing. They incorporate advanced technologies, employing skilled human resources with knowledge of hotel management in vertically organized operations.

The Algarve region and tourism are both characterised by these co-existent forms of business: According to the Portuguese National Institute of Statistics (INE) (2008b), in 2007, around 96 per cent of the regional firms had fewer than 10 employees, 3.7 per cent 10 – 49, and only 0.3 per cent had between 50 and 250 employees.

In this context, large companies benefit from the region mostly through the exploitation of geographical conditions and low cost labour compared to the rest of Europe. When introducing innovations, they display low levels of interaction and knowledge diffusion with other regional firms and institutions. In addition, returns created by these companies in the region are not systematically reinvested there, since productive cooperation and commercial linkages are fragile, and better opportunities are commonly available elsewhere. Because of the significant presence of MSTF, Korres (2007) has suggested that it should be possible to gain competitiveness through scope economies. This argument is complemented by geographical qualities based on social and geographical proximity in a spatial context in which tourism activity may be developed on the basis of rivalry and competition.

At the same time, networking and cooperative behaviour between institutions, allowing knowledge transfer, may support a cluster, with repercussions on the capacity to innovate by tourism firms. Tourism products are experience services, based in specific tourism destinations, where a set of complex, interlinked elements may be involved in a specific location (Decelle, 2004; Hjalager, 2010b). In the Algarve several projects support such an interpretation. Two examples are:

- Plano Estratégico da Bacia do Arade – a development plan for the restricted area of Arade river by Portimão resulting from the cooperation of cross border municipalities, the Universidade do Algarve, the Institute of Employment and Training (IEFP), the regional office of the Ministry of Economy, Innovation and Development (DRE) and the Coordination Commission for Regional development (CCDR).
- A Rota da Cortiça – the so-called “Cork Route”, through the Serra do Caldeirão showing the production of cork, cork extraction and industrial processing. The programme, one of the most integrative in joining institution such as DRE, the Algarve Regional Tourism Office (ERTA), the Association of Municipalities of Algarve (AMAL), the Business Association of Algarve, NERA, CCDR and several enterprises, is also contributing to protect and promote the only product in which Portugal is the world leader.

From the perspective of any emergent innovation system, the tourism industry needs to generate new knowledge through partnerships, collaboration and networking among MSTF, large firms and other regional players. A capacity to create value and competitive advantage in specific destinations must involve many firms. A systemic approach is therefore needed rather than the promotion of innovation in individual firms (Plaza, *et al*, 2010). Tourism is therefore still an open field for analysis (Hjalager, 2010b).

Currently, among the important features of tourism are interactivity, based on client-tourism firm contacts, and intangibility, through the intensive use of new technologies and data. Tourism innovations are therefore mostly based on incremental processes, through “Project management and on-the-job innovations” (Miles, 2008a, pp. 115). In our survey, most of the key players cited examples of innovations in tourism firms incorporating new technological innovations such as the ICTs:

- Improving the generation of new client interfaces and new service delivery systems. The utilization of internet Web pages and internet and computerized booking systems have reduced the costs of transactions and direct relationships with customers. Additionally, computerized communication and internal task and cost software have improved the internal efficiency of firms – VISUALFORMA is one such company, awarded a prize as one of Portugal’s most innovative SMEs.
- Sometimes, such programmes have required organizational, back-office improvements and more skilled employees. Frequently, however, these tasks have been subcontracted to emerging small firms specialized in supplying such services to hotels and restaurants (e.g. ALGARDATA has expanded as a result of the use of such skills).
- Some innovations, such as lower internet prices and the promotion of tourism packages (especially in low seasons), co-branding initiatives, the intensive use of internet and mobile phone tools for promotion via social media channels, and multi-lingual interfaces have been developed by both large firms and MSTF. This supports the need to incorporate increasingly specialized knowledge capabilities, especially in the use of these technology tools.
- Private and public Algarve tourism agencies have built regional internet interfaces including all tourism firms in the Algarve, where it is possible to identify the activities of firms and their regional location, providing efficient communication channels among suppliers and client-tourism firms. An example is the ALGARVE DIGITAL portal. Such new marketing techniques and new communications channels have provided opportunities for many small firms, in particular in relation to property sales and rental markets.

As well as developing knowledge and information networks for tourism destinations, it is more important on a daily basis to develop regional tourism products themselves. Tourist regions may build a RIS by developing systematic knowledge spillovers and absorption capabilities, based on linkages among regional, national and international agents, reinforcing learning behaviour through regional private and public partnerships. Sundbo (2010) considers such a case including tourism as a KIS (featuring the development of destinations and new tourism systems) focusing on public-private network collaboration to promote cities and regions. In the Algarve many public private partnerships now shape the institutional framework of tourism activities. The strongest such case relates to sporting activities (e.g. Estádio do Algarve for EURO 2004) or the construction of infrastructure for environmental improvement (e.g. management and recycling of water and waste products and the construction of industrial parks in the various municipalities).

B) Specific Sources of Knowledge-intensive Spillovers

The presence of knowledge spillovers influencing innovative performances in KIBS depends on the nature of the activities (de Jong, *et al.*, 2003). Doloreux (2010) confirms that KIBS behaviour is quite distinct in peripheral areas. While most of the literature shows that innovation in peripheral regions suffers from a lack of critical mass and low densities of actors and relationships, strategic choices may be able to overcome such bottlenecks.

Most of our stakeholder respondents agreed that the promotion of education and information regarding R and D were two important tasks of regional policy targeting potential bottlenecks. In the Algarve, the success rate in secondary education only reaches 76.1 per cent, compared with 79.7 per cent in Portugal. Around 70 per cent of the population has schooling for fewer than 12 years and the educational attainment rate in higher education reaches only 19.9 per cent, compared with a national rate of 29.7 per cent (INE, 2008).

As well as complex challenges such as improving educational levels, market necessities must also be addressed to promote and improve tourism professionalism. This includes adopting new tourism business models, mostly based on e-tourism, e-commerce and ICT as the principal agents of change in the structure of the industry (Hjalager, 2002). Requirements for more skilled human resources are reflected in recent public and private initiatives in tourism training. This may become an important source of knowledge for innovation, encouraging the rise of more technology-based firms or KITS. Recent initiatives include:

- Tourism in Portugal (RTA and EHTA), the Ministry of Labour and Social Solidarity (through IEFP), and the Ministry of Education have developed regional programmes in secondary level education and vocational training in tourism to support tourism firms. The Escola de Hotelaria do Algarve provides excellent conditions for implementing many such programmes.
- Respondents to our survey drew attention to many schemes through which project leaders gain access to specific knowledge through more advanced training in tourism. For example, CCDDR, the University of Algarve, NERA, AMAL and the Association of Hotels and Tourist Enterprises of Algarve (AHETA) are major knowledge providers in the region. Formally or informally, they incorporate knowledge management tools in their training, supporting MSTF in being competitive enterprises by assisting them in gaining access to new technologies, organise business plans, acquire new partners and respond to marketing trends.
- In contrast, owners or founders of tourism firms who are not able to access suitable knowledge, especially by increasing or incorporating new skills, they find it difficult to be competitive and invest in their companies. In turn, they fail to generate access to financial backers willing to support improvements in firm performance. Respondents confirmed that this may be the most common behaviour of small tourism firms.

Interaction and the sharing of a common business language related to tourism are important in a small territory such as the Algarve, where geographic proximity is important role in facilitating new business and innovative activities.

As a stakeholder representing a European agency at the CCDDR pointed out, there have been some regional projects in which firms cooperated to structure a specific product or create an external marketing platform to improve the promotion and sales of their products. Without this, the region's size and investment capacity would not have allowed them to fund such a project.

Spinoffs from the Universidade do Algarve can also be considered, both as isolated sources of knowledge at the regional level and when they include cooperation with the private sector. Currently, only a few tourism companies have generated cooperative relationships linking universities and commercial knowledge from specific projects. One of this is the planned IIEAT (International Institute for Advanced Studies in Tourism).

Key players have shown concern about the fact that firm-university relationships in the region that might have helped commercialize particular expertise have not had the needed impact, not just in the tourism sector. The Algarve Region Innovation Centre (CRIA) is

putting significant effort into promoting possible partnerships at this level, including joint R and D projects and other actions in areas of marine sciences and new technologies.

In the Algarve, there are also MSTF that participate in regional development bodies. Business Associations are important, in which formal and informal networks are used by firms to gain tourism knowledge, including AHETA. Tacit knowledge is shared and absorbed by the owners of hotels and tourist enterprises and transferred to other tourism firms. Business Associations are also involved with regional tourism bodies (ERTA) which commonly discuss and propose guidelines regarding the specific role that tourism has to play in regional development. These instances provide all regional players with a significant role in the development of the region. They promote increased interaction among public, private and Non Governmental Organizations (NGOs) such as GLOBALGARVE, a regional agency, responsible for a number of initiatives to promote regional growth and firm competitiveness.

Regional business associations, such as NERA, including micro, small and medium tourism firms, also act as a source of knowledge for innovation and entrepreneurship by promoting the diffusion of ideas, projecting opportunities, and issues of financing, business plans, etc. Although there are only a few such forums, sector meetings or seminars coordinated by business associations also allow the exchange of ideas and business experiences among private enterprises and with other regional or international players.

Generally, there are still no permanent structured relationships in the region to spread good practices to small businesses, for example by following those implemented by large tourism companies. Only a few large companies offer such knowledge openly in forums or seminars where information about the company may help smaller firms by spreading knowledge about innovative activities, adapted to their fields of action and development.

C) Other Vehicles of Knowledge-intensive Spillovers

Public initiatives to promote and regulate tourism and innovation in the Algarve, designed to improve processes of knowledge-intensive spillover, are contained in the National Strategic Reference Framework, 2007 – 2013. This is focused around guidelines provided by the European Union. In this national context, the main regional private and public actions are elaborated in the “Algarve Development Strategy 2007 – 2013”, which also considers lines of action contained in the Regional Land Plan of the Algarve. Headed by the Regional Coordination and Development Committee of Algarve (CCDR), this document emphasizes the need to increase regional competitiveness and skilled employment. In turn, the “Operational Program of the Algarve Region”, based on the three lines of structural investment (innovation and knowledge, environmental qualifications, and territory) has become an important regional public policy (PO ALGARVE 21). On the other hand, specific suggestions for national tourism activity are contained in the Strategic Plan for Tourism Development (PENT, 2007). As part of the national structural policy programme promoting knowledge creation and diffusion across Portuguese regions, the “Regional Plan for Innovation” was also elaborated by the Universidade do Algarve in 2007. This initiative aimed to generate a technical and productive redefinition of the region and create conditions supporting a RIS to promote Algarve strategically as a competitive region, in particular in through tourism.

The many small companies involved in the regional tourist system in the Algarve face many difficulties and lack the technical and operational resources needed to carry out innovation activities. The most innovative tourism firms are generally belong to large, vertically integrated economic groups, in which the use of knowledge is organized within their own companies or groups. These operate globally and, through their organizations, are able to gain scale economies, helping to reduce final prices.

Hjalager (2002) and Sundbo, *et al*, (2007) have questioned the capacity of tourism workers as sources of innovation because of low levels of training. One of the reasons for this is the seasonality of the sector. This applies in the Algarve, even though many efforts have been made to reduce uneven activity through the year by offering a more diversified set of regional tourist products and services. Examples include eco-tourism initiatives, aquatic entertainment, golf facilities, activities and recreation for seniors and intensification of international sport contests. External factors have also influenced the capacity to attract larger numbers of tourists, including the economic crisis and the devaluation of the Pound against the Euro, reducing the numbers of British tourists, the main source of international visitors.

High seasonality and the low-skill levels of tourism jobs are the main reasons for strong labour mobility between jobs and places within the region. However, the high employment offered by large companies in the busy season acts as a source of specialist knowledge, including efficient organizational and business practices that can be acquired by workers. Labour mobility therefore spreads the organizational models of these companies across the tourist area as the technical and operational profile of human resources is internalized, diffused and reproduced in different firms as workers are contracted around the region .

D) Conclusion: A Tourism Regional Innovation Platform in the Algarve

The primary and secondary information collected through our series of interviews with regional stakeholders included all the actors reported in Figure 2. This is one of the major conclusions of this work, drawing links between all the implicated actors and confirming the existence of an extensive Regional Innovation Platform for tourism in the Algarve. This platform has the following characteristics:

- It is composed of international, national and regional public and private agents, which are still unable to build an interconnected innovative system because of the fragility of regional interaction and coordinated initiatives so far.
- Institutional routines to generate innovation are still emerging, despite their active promotion, since they remain quite isolated from each other.
- Private initiatives in the region have made advances, generating interesting results through informal and formal networks supporting regional sources of knowledge about innovation in tourism firms.
- The most important effects of public policies in relation to innovation has been through the regional training support used mainly by small tourism firms to increase skilled human resources.

The competitiveness achieved by tourism in the Algarve has stimulated the need for public sector support, for example, through the promotion of tourism studies in the Universidade do Algarve, and also to focus regional growth on the exploitation of tourism activities (for example, as part of specific programmes from the Social Cohesion Fund). Furthermore, many other international programmes, mainly from the European Union, have sought to favour improvements of competitiveness in more peripheral regions through specific regional programs (e.g. LEADER, MED). These are led by public institutions supporting private projects to shape economic resources and human skills in support of regional tourism development.

From the governance point of view, it is also important to generate a clear regional leadership for the emerging RIS, a role that should be taken up by the regional tourism agency, ERTA. Although regional strategies can assert key policy areas, operational application need to be improved through efficient instruments and policies towards greater participation and communication among regional players.

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