

Economic Resilience and Tourism Destinations: Eco and Cultural Responses to Turbulence Contexts in Coastal Areas*

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1. Introduction

Recession, economic turbulence, crisis. These are all terms to describe the ongoing economic problems that the world is currently facing. The recession, which largely started in 2007, has been labelled several different ways; however, its impact has been the same characterised by high unemployment, currency devaluation and unstable economies. This is particularly evident in the global tourism industry which has seen increasing losses stemming from late- 2007 to the current time¹. Unlike other industries, the tourism industry is demand-driven which makes a global economic crisis even more difficult to recover from as it is based on consumers' needs. According to Little Consultants, 'with its global implications and the fact that it directly affects people's financial ability to travel, the current global economic downturn could become the most severe crisis the industry (tourism) has ever seen' (Little, 2009: 1). While this quote may seem presumptuous, figure 1 demonstrates the changes to global tourism over time, considering major, historical disruptions based on war, terrorism, other economic crises and extreme weather which highlights the significance of the current recession in the industry.

In providing this historic overview, figure 1 demonstrates that the current tourist industry reduction is less about combined shocks and more about the extent of the shock. 'Shock' is referring to exogenous shocks that can affect an economic system. There are three kinds of sudden shocks that can affect a system, in this case a region: those caused by macroeconomic events such as an economic recession, those caused by industry-specific shocks (when the industry is prominent in the region) such as movement of major firms out of the region or increased competitiveness, and those caused by natural disasters in the region (Hill et al, 2011). There can also be slowly developing shocks described as 'slow burns' such as deindustrialisation (Pendall et al, 2007). While many regions are confronted by more than one shock, particularly relating to climate change or peak oil, for the purposes of this article, when discussing shocks, we will be referring to the sudden, macroeconomic events such as the economic crisis. Going back to figure 1, in comparison to the current tourism downturn, the 2003 period was a similar low point for international tourists; however, the exogenous shocks at that time were not as far-

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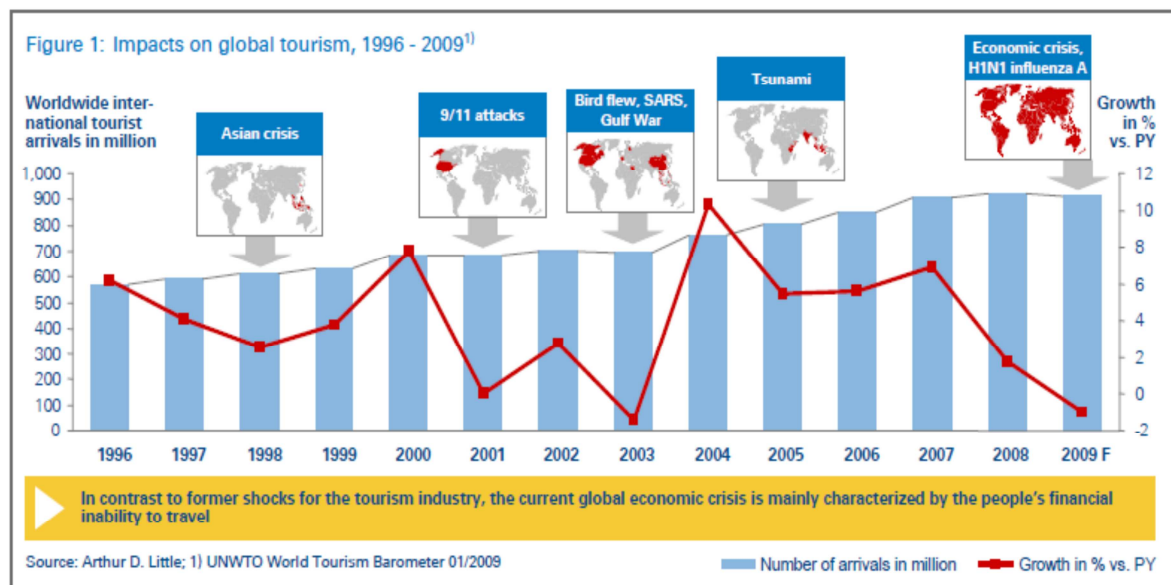
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¹ Due to travellers booking their trips in advance, it is estimated that the impact of the recession was delayed 6-9 months in the industry thereby affecting it in late-2007 although many other industries would have started to experience problems earlier in the year (Little, 2009).

reaching in their extent or substantial in their impact as the current economic crisis which is depicted in the small world maps highlighted in figure 1. Furthermore, the capacity to recover has never been so great in terms of high unemployment, unstable national economies, austerity measures and increasing business closures.

The scenario presented thus far has been at the global level with an all-encompassing definition of tourism. A breakdown of what will be specifically reviewed in this article is needed. The regional level will be considered due to the geographic similarities of the Atlantic Area cases- South West Wales (SWW), Algarve & Huelva (Andalusia)- and the ability of the region to adapt and change more rapidly than at the national or global level. 'Tourism' as an industry is more complex than what people do when they are away from home. This complexity is based on the types of tourists, the destinations and the reason for travel. Tourists can be considered business travellers or leisure travellers; their travel being short-distance, mid-distance or long-distance which can also be described, in some ways, as foreign or domestic tourists; also, there are a number of tourists who engage in specific activities which will be considered cultural tourists or food tourists. In dealing with the economic crisis, long range destinations are performing the worst due to increased flight fares and short range destinations are performing the best due to public transport or car travel options (Smeral, 2010). In addition, the latter option is preferred as the tourists are less likely to be surprised by conditions at their destination such as weather and language use (Smeral, 2010).



Beyond the supply-side factors, with the high debt levels in private households, the possibility of unemployment and the devaluation of currency when travelling abroad, domestic travel is being utilised more than overseas travel (Smeral, 2009). However, even with the increase in domestic tourism, tourists (both domestic and foreign) are reducing their expenditures including duration of their stay and use of related, service industries

(Smeral, 2009). Both supply and demand side characteristics are pointing to domestic tourism during a recession; however, this is problematic when the nation, ie. the consumers, is going through a similar period of austerity. As the focus of this article is on coastal tourism, the tourist profile we will be analysing is a leisure tourist that is either foreign (long- or mid- distance) or domestic. While it is understood that domestic tourism will rise given the economic conditions, the foreign tourist market will also be analysed due to its economic impact on the region. The activities the tourists partake in will be narrowed in proceeding sections.

This article is an original contribution to the field, not only when concentrating on the three distinct coastal tourism cases but also in relation to coastal tourism and economic resilience. Several articles and reports, which will be cited extensively throughout this text, discuss the effect of the recession or the economic crisis on the industry; however, few, if any, address possible ways for the industry to recover or ways it is attempting to recover. While this could be due to the low predictive capacity of regional economic resilience (RER) theory or the demand-driven nature of the industry, this article will consider other possible outcomes largely based on evolutionary economic geography (EEG) theory. Through using EEG, the potential for recovery can be gauged through the historic evolution of the regions.

It should be mentioned at this point that the authors have made every attempt to provide an equal contribution for each region in discussing the extent of the cluster and the impact of the economic crisis but due to the varying levels of information on each of the cases, some may be discussed more than others. The data gathered by the KIMERAA partners from Wales, Southern Portugal and Southern Spain on the coastal tourism clusters in their regions was used as the basis for this article.

This article will continue as follows. Having identified what we mean by 'coastal tourism'; and briefly describing the impact of the economic crisis on the industry as a whole and at the regional level; and establishing the presence of a coastal tourism cluster in each region, the article will consider the impact of the crisis on the clusters in an effort to strategise how the regions can recover from this substantial exogenous shock. The next section will highlight the RER literature focusing on its potential applications in three distinct regions as presented in the case studies. The RER literature will be discussed in the EEG context. By adding the evolutionary aspect, the future 'innovative coastal tourism activities' that will lift the regions' out of recession, which were mentioned in the abstract, can be considered through the existing regional strengths. This will be particularly useful in the following section which will discuss the individual cases in relation to their particular contexts and review potential future activities. The final section will provide a brief review of the article and concluding remarks.

2. Economic Resilience and Regional Development

The economic significance of the cluster to the region in each case is based on the history of the clusters and their importance to the region. Due to the combined economic and historic significance, the regional economic resilience literature will be discussed in relation to its evolutionary capacity focusing on EEG concepts. According to Simmie & Martin, there are three main kinds of RER: engineering, ecological and path dependence (2010). Engineering resilience is based in physics through its reliance on system elasticity but also has roots in economics. This theory considers resilience as the capacity of the system to return to or resume a state of equilibrium after an external shock. The faster the system returns to a state of equilibrium, the more resilient it is to external shocks. When assessing regional resilience in the US, a number of American academics use equilibrium to explain resilience which is measured through unemployment and export statistics pre- and post- shock (see Hill et al., 2010; Briguglio et al. 2009). Ecological resilience is an extension of engineering resilience but differs due to the system's ability to have multiple equilibria which is more conducive to the ecological sciences. In having multiple equilibria, ecological resilience is the ability of a system to absorb the shock before it is destabilised and transitions to another regime of behaviour. In Swanstrom's critical examination of the ecological framework, he argues that the ecological concept, with multiple equilibria, is more suitable when discussing regional resilience as it takes into account the ability of the industries in the region to adapt (2008). However, Simmie and Martin aptly note that the resilience of this system is measured by its ability to remain the same or 'absorb' an extreme shock (2010). This elasticity aspect of ecological resilience ties it closer to engineering resilience than any evolutionary-based theories. Lastly, path dependence focuses on the regional economy to be 'locked in' to a particular path. To further explain, the region is locked-into a certain method of economic development which is reinforced by significant returns to the local economy (David, 2005). If the regional economy, that is locked-in to a specific path, is impacted by a shock then the resilience of the region can be gauged in the region's capacity to return to that path. Although some words have changed (regional economy instead of system, lock-in instead of equilibrium), this account of path dependence theory appears to be in line with engineering resilience (Simmie & Martin, 2010).

Through this brief assessment, Simmie & Martin have seemingly related all popular resilience theory to equilibrium-based arguments; however, if a system is constantly returning to equilibrium how is it evolving (2010)? The conflict between system equilibrium and system evolution in addressing resilience is widely disputed as 'returning to a state of equilibrium' implies that there is no change or evolution. Boschma & Martin, describe evolutionary economics in the ability of the economy to *self-transform from within* (2010). This transformation has three specific characteristics: dynamical, irreversible process and novelty. The first characteristic, dynamical, refers to the constant state of change the economy is in, ie. it is not static. The second characteristic, irreversible

process, refers to the forward moving nature of the economy. The final characteristic, novelty, refers to the innovative emphasis in evolutionary economics to drive markets. In combining the first and second characteristic, where the economy needs to be changing and moving forward, it can be assumed that equilibrium-based economic notions can be abandoned. Using this evolutionary economics (EE) platform, EEG is possible as the EE aspect deals with the transformation of the economy and the geography aspect deals with the space in which these transformations occur (Boschma & Martin, 2010). Furthermore, Boschma & Martin identify three EEG theories, one of which is path dependence. Since it was discounted above as being equilibrium-based, how can path dependence be a core EEG theory (2010)?

Simmie and Martin consider the relationship between path dependence and evolution through theorising new path creation (2010). In creating the new path, which could be based on the old paths as they provide the skills and competences for development, the system (regional economy) demonstrates the evolutionary side to path dependence theory and also shows how the system can adapt or 'break free' from lock-in in response to the shock (Martin & Sunley, 2006; Simmie & Martin, 2010). In understanding EEG, path dependence, as an evolution-based theory which addresses the aforementioned equilibrium question, will be discussed in its relevance to the adaptation of resilient regions. However, it should be mentioned that there are also evolutionary economic geography theories that have also gained academic support in terms of regional economic resilience: panarchy and complex adaptive systems. All three RER (based in EEG) theories are intended to be applied ex post or after the fact; however, as the cases are historically based on path dependence this will be applied to the cases to consider how they will each evolve from the shock based on the existing strengths.

Substantial research has been completed focusing on path creation with contradictory findings that paths are created at random or they are shaped by old paths (Martin & Sunley, 2006). Using the evolutionary perspective, the latter finding will be explored further as a form of regional adaptation which could promote post-shock recovery. According to Martin & Sunley, possible EEG-based scenarios for escaping path lock-in include: branching and related variety (2006). 'Branching' or 'regional branching' is when industries, both mature/going into decline and new/ developing, work together to innovate another, technologically-based industry (Boschma & Frenken, 2011). This takes into account the related variety of industries already present in the region as well as the capacity for technological relatedness. Through the utilisation of knowledge transfer methods, the new industries can connect with existing industries to support innovation and growth. Regions that evolve in this way are traditionally characterised by the attributes listed in the bottom left corner of table 1 with low regional innovation and low variety (Cooke, 2010).

Table 1: Varieties of Path Dependent Economic Development

		Variety	
		Low	High
Regional Innovation	High	<ul style="list-style-type: none"> -Creative Destruction -Low Path Dependence -Regime Shift -Innovation 'Push' 	<ul style="list-style-type: none"> -Mutation/Transversality -Early Path Dependence -Demand-driven Innovation -Co-evolutionary Transition
	Low	<ul style="list-style-type: none"> -Equilibrium -High Path Dependence -Branching -User-driven Innovation -Incremental Change 	<ul style="list-style-type: none"> -Punctuated Equilibrium -Late Path Dependence -Renewal -Design-driven Innovation -Market Paradigm Shift

Source: Adapted from Cooke, 2010

When considering table 1, it should be mentioned that 'variety is the evolutionary fuel of regional development: too little will stifle the creativity and innovation that gives firms and regions their competitive edge; too much will result in cognitive dissonance and the inability to fruitfully interact among firms and organizations like universities, research hospitals and stand-alone public laboratories' (Cooke, forthcoming). By juxtaposing regional innovation and variety, or Schumpeterian and Jacobian virtues, Cooke has effectively explained the other, non-lock-in options while providing the framework for additional regional development options (eg. Transversality). Due to the similar attributes listed in the transversality box of table 1, with the coastal tourism industry as a whole namely the demand-driven nature of the industry and the early path dependence, transversality will be discussed further in the next section.

Transversality has several applications at the regional level, including cluster collaboration, innovation and policy. In terms of path dependence and resilience, the regional system is able to adapt due to the exercise of transversality as regions and firms will seek innovation by stimulating information flow and knowledge appreciation among unlike kinds of cluster. This knowledge transfer can be organic and market-based between geographically proximate industries or clusters or it can be the work of regional development agencies (RDAs) to facilitate this strange attractor interaction. An example of the former could be farmers working with automobile manufacturers to innovate new biofuels (Cooke, 2010). In terms of the latter case, the role of the RDAs is prominent in this case in the wider European context through examples from Lower Austria, where this type of policy is considered to have started, and the Bayern region in Germany. Cooke has highlighted the work being done at Bayern Innovative as a main case study for transversality in the organisation's ability to bring international clusters together at regional match-making events for the purpose of collaboration and innovation (see Cooke, forthcoming). One interesting aspect of Cooke's work is the emphasis on transversality as a vehicle for eco-innovation. The foundation for this is the proposed regime shift away from carbon-based living to a green economy; however, the transversality concept can be used beyond this application. While some of the cases discussed in this article will be discussed in terms of their green credentials and eco-innovation capacity other options for regional recovery will also be explained such as cultural tourism, even if discussing transversality.

3. Coastal Tourism and Regional Clusters: Comparison of the Cases of Algarve, Wales and Huelva

3.1. The Socioeconomic Significance of the Regional Coastal Tourism Clusters

The 'cases' are NUTS III regions that contain socioeconomically significant coastal tourism clusters, of varying sizes and specialities, in the Atlantic Area. The regions represented in this article are: Algarve (Portugal) South West Wales (UK) and the Province of Huelva, Andalusia (Spain). The prominence of the clusters in the regions is based on the natural resources (mainly beaches), related tourist industries and social connections; but, how do these clusters retain their socioeconomic significance in their region during a recession?²

For Algarve: The sector is the most important in the Algarve, especially because of Sun and Sea Tourism, but also because of the golf tourism and the weather which attracts visitors, nationals and foreigners, throughout the year. It is estimated that 20% of the regional workforce is employed by the coastal tourism industry. The overnight stays represent a total of around fifteen million per year in hotels (close to 38% of country totals) and 2.8 million guests a year (22.5% of the country), most of which visit primarily for the Sun and Sea tourism. The accommodation sector income is more than 362 million Euros, recorded in 427 hotel establishments (21.1% of the country) that provide more than 100.000 beds (37% of the national supplies). In relation to nautical tourism it's necessary to highlight that Portimão cruise port in the region received 24.505 passengers in 2006, referring to 36 luxury cruises. In this type of tourism the role played by the companies that carry out tourist cruises in sea or rivers is also important. For example, along the Algarve's coast or at Guadiana and Arade Rivers, we can also point out that in 2006, 70,000 people made trips throughout the western Algarve. Marinas (Lagos, Portimão, Albufeira and Vilamoura) also play an important role, where the occupancy rates have been growing, even in the low season, receiving vessels especially from the rest of the country, the United Kingdom and Spain. Regarding the events related to the sea, the Algarve hosts several national and international sport championships in the form of regattas as well as recreational fishing, and gastronomic festivals, such as: the Festival of Seafood in Faro and Olhão, Clams and Cockles in Lagos and Sardine in Portimão. The related tourist industries in the Algarve are: golf, bird watching, nautical sports, marinas and nautical stations (Cooke et al., 2011).

The number of both domestic and foreign tourists has been drastically reduced in the Algarve since the beginning of the economic crisis which has had an impact on employment and related industries. As the South of Portugal is a very small and open economy, any exogenous shocks have a significant impact. Economic turbulence postpones expenses, investments, and collaborations. Projects being launched are surrounded by uncertainty, especially those that depend on tourism companies. There is a substantial University presence and cooperation within the cluster, namely through the University of the Algarve technology transfer office, specifically relating to intellectual property rights and entrepreneurship.

Although the Sun and Sea tourism is the most relevant in terms of number of attracted visitors, the Algarve has substantial resources to enhance culture-based tourism. Analysing the numbers of tourism primary resources in the region it can be confirmed that 69.4% of identified primary resources are cultural, historic or ethnographic (Cruz, 2010). Along with this type of resources there are also festivals based on the regional cultural assets. Examples

² As the clusters are socioeconomically significant to the region, regional economic resilience can be gauged through the recovery of the coastal tourism clusters in each region. Wales has a large non-renewable energy cluster in the same region which may be more economically important but has less social connections to the region particularly with the 'regime shift' that is occurring in South West Wales with increased emphasis on eco-innovation.

are the Medieval Festivals or the Med Festival. It is clear that the cultural base of the Algarve is extremely connected with the maritime tradition of the region.

For S.W. Wales: Coastal Tourism is invaluable to the population of the South West of Wales given the £500m per annum it contributes to the local economy and the 22,000 FTE jobs it provides. The jobs are largely seasonal with the season extending from May-October. Unlike the other clusters, SWW coastal tourism focuses on the remoteness and natural beauty of the region to compensate for the poor weather conditions. The key actors in the cluster are intermediaries such as Pembrokeshire Coastal Forum as well as government facilitators and over 1000 SMEs. There is no substantial University presence or cooperation, for the purpose of innovation, in the cluster. Coinciding with the typical Welsh SME, the coastal tourism SMEs employ less than five people; however, unlike non-coastal tourism firms, they are mainly started by lifestyle entrepreneurs. An interesting consideration is the landscape of South West Wales, which is largely rural with scenic beaches. This remoteness provides a sense of privacy and escape which is considered one of the main reasons tourists choose this destination. In addition, South West Wales is also one of four Welsh cruise ports which is also included in coastal tourism. The cruise tourism season spans the same time as the peak tourist season and is mainly focussed on Celtic-based cruises which utilise ports in Wales and Eastern Ireland. This is a newer type of tourism to the region but through involvement in collaboration projects it will add to the profile of the region. The related tourist industries in South West Wales are: golf, coasteering, hiking, climbing, restaurants, nautical stations and nautical sports.

Since the economic crisis started, the region has noticed an increase in domestic tourism but often only day-trippers, which was a characteristic of pre-recession tourism. This is attributed to less British tourists travelling abroad but still wanting a vacation or 'stay-cation'. Even if the tourists are overnight guests they are spending less. In addition, tourists are more likely to book their trips late based on weather conditions which are ever-changing in the region. Furthermore, the seasonality issue is still prominent forcing businesses to make their annual income in a 6-month period.

For Huelva: There were 108,513 tourists who slept in hotel establishments and a total of 355,718 stays overnight in the city of Huelva with a daily expense of 57,85 € (IEA, 2007). There are 9 hotels in the capital, with 1,317 accommodations, providing the foundation for tourists to come to Huelva. In 2008, Huelva was the third Andalusian capital in number of overnight stays and Andalusia is the fourth most popular destination in Spain after Cataluña and the Isles. The regional rating Huelva has acquired is impressive as it is not primarily known as a tourist destination at the world level; rather, it is a large, non-renewable energy, port facility. Nonetheless, it was chosen as a case for this article due to the data acquired through the KIMERAA partnership and the connections with the larger Andalusia region.

Although tourism is only 5% of the regional GDP, it is the livelihood for many of the local towns in the region and it provides direct and indirect employment (30% of the population of the coast)³. This sector, is concentrated on the coast (Ayamonte, Almonte, Huelva, Isla Cristina, Lepe), making coastal tourism one of the most important maritime clusters in the area. Normally, the tourists came from the neighbouring provinces of Badajoz and Sevilla, but since 1991, it has also served foreign tourists. Nonetheless, 85% of the tourist are still Spanish. In addition, there are 3635 (Huelva 854, Almonte 231, Lepe 215, Ayamonte 207, Punta Umbría 207 and Isla Cristina 203) restaurants in the province, with a total per town over the provincial and national average. There is no substantial University presence or cooperation in the cluster. The related tourist industries prominent in Huelva are: golf, sport ports, restaurants, yacht buildings, and nautical stations.

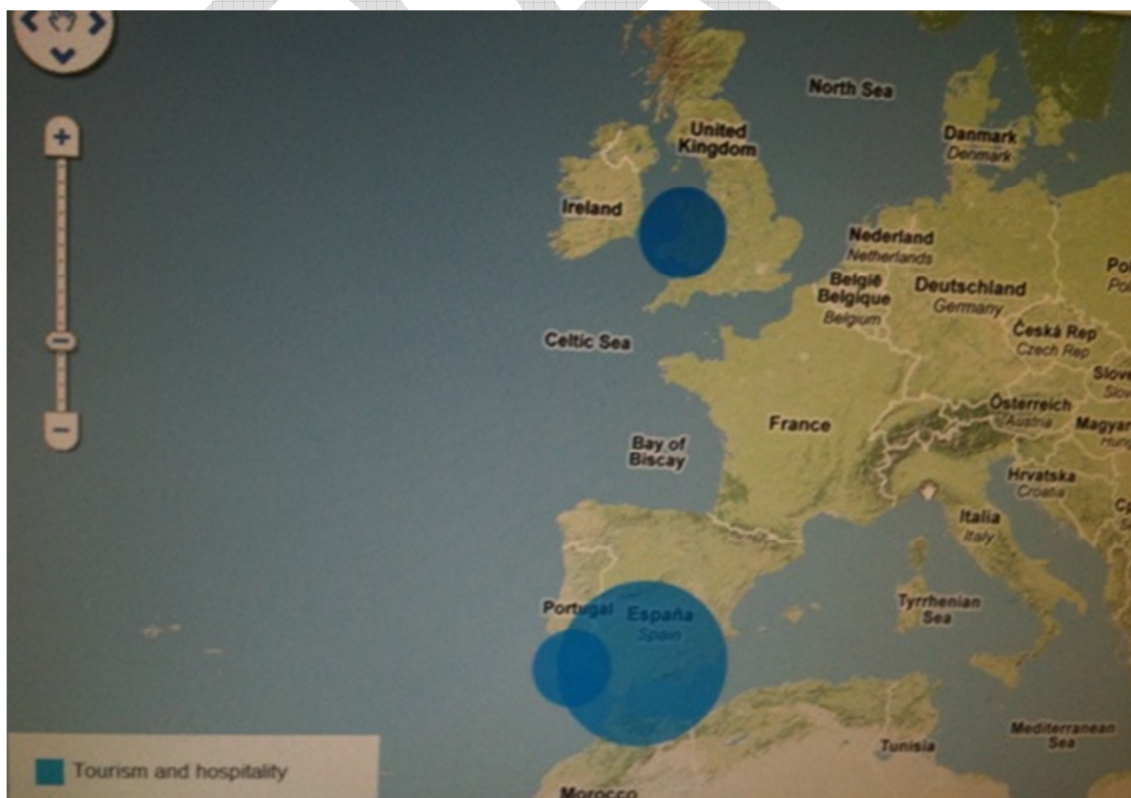
³ Coastal tourism's contribution to the regional GDP in Huelva is low due to the presence of a significant non-renewable energy cluster in the region.

The economic crisis has had an impact on coastal tourism in Huelva in relation to rising unemployment. The enterprises have laid off a large number of workers and they are not willing to use contract workers due to issues of social capital and trust. The parts of the cluster that have been disproportionately unaffected by the crisis are marinas and sailing due to these being activities for the more affluent members of society. Despite the shock, some marinas, of the 7 there are in the province, have had to improve their facilities to give the services demanded by customers.

This section has only highlighted the socioeconomic significance, during the recession, of each cluster to the region. Further analysis will be completed on the cases in later sections. When possible, all information relating to each case will be as specific to the region as possible; however, some of the information may be for the whole of the area, eg. Wales as the whole country is a region at the NUTS II level even though this case focuses on SWW (NUTS III).

Beyond the importance of tourism to the individual regions, the level of activity amongst the coastal tourism actors in the region also needs to be assessed given the cluster label applied to it in each region. The output from the KIMERAA project, namely the 'Maritime Clusters: Institutions and Innovation Actors in the Atlantic Area' report aptly described the collaboration between the regional, coastal tourism actors that, in some cases, are also competitors (2011). As this defining characteristic, along with knowledge transfer and collaboration is the basis for a cluster, as defined by Cooke, then each region can be considered a coastal tourism cluster host (1998). In addition to this output, the EU cluster observatory illustration in Map 1 demonstrates not only that there are coastal tourism clusters in each of the regions but also depicts the size of the clusters. The clusters in Map 1 were defined through employment saturation in a particular industry at the regional level.

Map 1: Regional Clusters based on Industry Employment Statistics



Source: EU Cluster Observatory, 2009

Map 1 illustrates the Wales cluster as being larger than the Algarve cluster which, may be true in terms of employment but not in terms of regional significance, historic relevance or worldwide reputation. There are three other issues with this map. First, the most detailed regions on the EU Observatory website were not the same as the regions defined above. While the UK case is the SWW region, the EU Observatory region is the South West of Wales and the Welsh Valleys. Similarly, Andalusia is not further specified to Huelva, it stays at the wider regional level which reduces the comparison capabilities and makes that cluster appear twice as large as the other cases. Unlike these two cases, the Algarve region is defined in the same manner both here and on the cluster website. Second, the cluster website does not seem to take into account related firms that are adapted to tourism such as restaurants which skews the employment numbers and the cluster size. Third, the sector selected, 'tourism & hospitality', as depicted in the bottom left corner of Map 1, was as specific as possible given the website parameters. Despite these significant flaws, the main point to take from Map 1 is that there are tourism-based clusters in each region. While the Southern European clusters are more successful and well established than the cluster in Wales, all three cases can utilise practices from each other making this article relevant beyond its academic applications.

The next section will debate regional economic resilience in the three cases - SWW, Algarve & Huelva-and how each region can recover from the economic crisis shock through this theory.

3.2. Three Different Clusters, Three Different Resilience Stories

The data was gathered using qualitative methods, namely secondary source analysis and semi-structured interviews with key actors in the region. The secondary source analysis reviewed the background information on the regions to compose an economic, sociologic, and geographic profile for each area. While gaining a better understanding of these elements at the regional level, this was also how the coastal tourism cluster was identified as being either socioeconomically significant to the region or having growth potential. In all three cases, the coastal tourism cluster was identified as being socioeconomically significant to the region as mentioned above. Based on the actors identified through the secondary source analysis which included a review of policy, semi-structured interviews were carried out with key actors in the cluster in each region. These actors were from: government, SMEs, large firms, university or intermediaries (consultants). The interviews provided a better understanding of the core issues and the main knowledge transfer activities through openly engaging with the actors. The interviews were conducted face-to-face and, if needed, over-the-phone. From the project each partner was expected to complete at least ten interviews in their specified cluster, for coastal tourism Wales provided ten, Southern Portugal provided thirty and Southern Spain provided seven. This article is based on the findings from both phases of the methodology.

This section will be broken down by case study. Each case study will be discussed in relation to the aforementioned theories and changes being completed, or that could be completed in the future to increase shock resistance, will be mentioned. The variation is due to each cluster suffering from the recession differently which can be based on the emphasis each region places on tourism (is it the only economically significant industry in the region?) as well as the type of tourist that would normally travel to the cluster (ex. international, etc.). The conclusion to this section will highlight any complementary or contradictory accounts within the cases.

3.2.1. Economic Resilience in the Algarve

The coastal tourism cluster in the Algarve is a cluster at the regional level but it is also expected to become connected to the national maritime cluster Ocean XXI in the upcoming year. This would allow enhanced cooperation between actors at the national level. The coastal tourism cluster is in a period of turbulence due to the impact of the recessionary shock which has reduced both the number of domestic and foreign tourists. The latter, particularly British tourists, is more prominent in relation to the decline in numbers and the economic contribution to the region. As one of the interviewed economists underlined *“it is a very small and open economy, the external shocks impact strongly, for the better and for the worse.”* Economic turbulence postpones expenses, investments, collaborations within the cluster so any collaborative projects using tourist companies that are being launched are surrounded by uncertainty. According to the regional knowledge transfer office, the promotion of coastal tourism innovation is done mainly in existing firms through collaborative R&D projects focusing on the reduction of environmental impacts and energetic rationalization in tourist activities. Despite this interest, sub-products like nautical activities or gastronomy are central but remain unexploited. Even ecotourism in the protected areas like Ria Formosa, need to have more information available about the constraints of the activities. Several stakeholders underlined that coastal tourism needs to be more cooperative, with a less prohibitive and more supportive legal environment, the supply needs to be more innovative, qualified and oriented to new demands, adding value to Sun and Sea. While this is the case for coastal tourism, one of its sub-industries, golf tourism, is doing exceedingly well despite the recession. This is motivated by the profile of the golf tourist that may suffer less with the recession shocks. This could be due to the multitude of options that golf tourists have in that their golf vacation is right next to a beach providing ‘something for everyone’. Alternatively, as is the case with sailing and yachtbuilding, the recession is not impacting these industries as much as others due to the socioeconomic status of their customers, which could also be the case for golf tourism.

Entrepreneurs are aiming to extend the tourist season in the Algarve but it is noted that more business diversity is needed, the tourism researcher supported that *“(...) there are several generations of tourism entrepreneurs in the Algarve. We had the ones that were only focused in the summer activities and now we are beginning to have all-year entrepreneurs that require a more sustainable business model (...) Tourism supply is not improving and lots of marketing in a bad product is not worth it. Algarve is losing ground.”* In addition, on the impact of recession, the Algarve’s regional tourism entity, says it could affect the number of tourists visiting the region and therefore the amount of revenue of the sector. This has economic and social consequences like the increased unemployment rate. This assessment applies especially to the traditional tourism products, like Sun and Sea or Golf, but also affects others such as nautical tourism. To overcome this obstacle a greater commitment of organizations to develop alternative and complementary products to Sun and Sea is needed.

From the side of the industry, the person responsible for the regional association of accommodation, stresses that his associates are being affected by two types of problems: the global crisis and the crisis in Portugal (although the latter is affected by the first). This economic recession is causing a decline in hotel occupancy rates and a deficit economic in the performance of SMEs. For the small qualified entrepreneurs of eco-tourism spin-offs the situation is somewhat different. These companies, like one of the entrepreneurs said, were born in the crisis. *“It can be difficult but in fact I don’t know. The crisis affects more the ones that don’t innovate. In a micro-company in the Algarve, focusing coastal tourism, it is not difficult to guarantee the minimum threshold to pay all expenses.* Subsequently, a very short-term vision is considerable acceptable and still dominates the

strategy for business in coastal tourism in the Algarve. It is a strategy of search, exploit and run.

Based on the information provided for this cluster including its industry-based demand driven nature, its capacity to co-evolve through extensive intra- and inter- regional cooperation and the early path dependence, it can be placed in the upper right hand corner of the Jacobian/Schumpeterian table 1. In the long term, the best way to increase regional variety and innovation is through transversality as discussed above. To some extent this is already occurring organically with the birth of several ecotourism-based firms, as well as the renewable energy emphasis in University R&D through blue biotech, wind energy and solar energy firms in the region. The next step would be further cluster-to-cluster collaboration, the more unlike the better, to innovate into new fields in the region.

Nevertheless some advanced firms, focusing on eco-tourism, emerged in the last years, integrating “traditional” coastal tourism activities with research and science communication. This can be the beginning of the regime shift from carbon-based innovation to post-carbon- based innovation. Through the general public’s growing knowledge of the benefits of sustainability, non-renewable energy and green tourism the social mindset of the cluster and the region can change. This would have a massive impact on the economy and has started to happen, to a certain extent, with meeting the demand of upper class individuals that are less affected by the economic crisis. One stellar example is Martinal, an ecotourism resort, which arose from the drive to encourage higher end clients to visit the Algarve by developing the Western most section of the region. While this objective was achieved with this resort, it does not take into consideration why other, smaller, ecotourism firms have arisen closer to the typical tourist populations.

However, to succeed in the long run, eco-tourism cannot be a business catchphrase but must be supported by serious eco-credentials as the aforementioned firms demonstrate. For example, golf courses will often describe their eco-credentials and explain that they are sustainable tourist resources; however, it is commonly known that the only thing green about golf is the colour of the fairway. Due to the high amount of fertiliser and water used to keep the course in suitable condition, the golf industry does not really have any eco-credentials. While golf is a major sub-industry within the coastal tourism cluster, if branching into ecotourism, it must be kept separate.

3.2.2. Economic Resilience in South West Wales

The actors involved in the coastal tourism cluster in South West Wales are largely SME owners and government that are involved in formal networks in the region. There is knowledge transfer occurring but it is not for the purpose of innovation; rather, it is with the aim of conservation and increasing tourist numbers. For the former, the majority of tourists come to West Wales due to the scenic coastline, remoteness and the natural environment. Understanding their customers’ demands, and the significance of the tourism industry to the regional economy, the actors in the cluster are interested in cooperating, with their competitors in some cases, to conserve their environment in order to have a sustainable business based on their natural surroundings. One way which this conservation is achieved is through the Marine Code Group, facilitated by the Pembrokeshire Coastal Forum.

The Marine Code Group, with over 50 members, was developed by local operators and other organisations working closely with the Pembrokeshire Coast National park Authority and the National Trust. These organisations are all concerned about the long-

term management of the area and the development of high standards of practice. They recognise that sustainable use must be a key theme in marine recreational activities and education. Most of the Pembrokeshire Coastline is privately owned, and the Marine Code encourages groups to show respect and consideration for the land owners, environment, wildlife and other users. This Marine Code group represents a commitment by all members to good practice. Everyone who signs up to the Marine Code agrees to conform to appropriate safety legislation. The project aims to develop Marine recreational activities within Pembrokeshire in a sustainable manner. Training events allow skippers and trip leaders to be more environmentally aware of the Pembrokeshire coastline and due to the practical projects, maintain and enhance a quality coastal environment for both visitors and local residents. Again, this works in the same way as the POCG to increase awareness for conservation in the region, which can be passed onto tourists in a 'play and learn' fashion.

Despite the cooperation for conservation strengths within the cluster, there are also weaknesses, particularly seasonality and day-trippers, which have been exacerbated by the recession. The tourism season in the region only runs from May-October with many entrepreneurs left virtually unemployed during the off-peak season. Another issue first addressed in the coastal tourism strategy that should be updated is the potential lack of tourists visiting the South West Wales region for more than a weekend due to the low cost of European air travel for stays of over 3 day. Almost 80% of tourists arrive in SWW by car and over 50% come for the day. The other 20% travel to the cluster by train, caravan or other non-flight option. In this case, the recession has actually helped the tourism industry in South West Wales as the tourist numbers have increased over the last two years; however, mainly day-trippers. This group is needed but not advantageous for accommodation providers. This is reinforced by the TYF (outdoor adventure SME) representatives who explained that the last two years have been record breaking in terms of filling capacity during the peak season. Going back to the aforementioned issue of seasonality, the next obstacle to overcome is drawing visitors in the off season.

Out of all the cases discussed in this article, the SWW region, and the coastal tourism cluster it contains, are the most inclined to adopt 'sustainable living' practices due to the social transformation that has already occurred. The SWW region as a whole is extremely forward thinking in regards to eco-innovation which is demonstrated by the extensive use of clean technology in the region. This is mainly in the form of biomass conversion, solar panel innovation, marine energy and wind energy which is researched, produced and utilised in the region. Combining the work done in this field, with the local emphasis and the knowledge of the benefits of sustainable living, the region as a whole is much more able to completely transition to eco-tourism than the other cases. This eco-based position is somewhat odd given the economic importance of the non-renewable energy firms in the region; however, this presence could be considered the catalyst for the heightened sense of green living.

Nonetheless, the transition has already started, with the oldest ecotourism firms being from this case, with the award-winning BlueStone resort as well as smaller tourism SME's that are sustainable and teach sustainable practices to guests. BlueStone is a resort located in the SWW region that is a pillar within the coastal tourism cluster as well as being a best-practice example of ecotourism. The resort is comprised of tourist cottages, a water park (Blue Lagoon) and a spa, all of which utilise renewable energy. The resort has been in business for 15 years, which lends itself to the understanding that this region is advanced in terms of the sustainable thinking. For example, the heat for Blue Lagoon, which is substantial as the pool water needs to be heated, is generated in an on-site energy centre, housing two 28-tonne boilers which burn a blend of energy crops (biomass) grown

by local farmers, and woodchip. This equates to an annual saving of 3000 tonnes of CO₂ compared to if the Blue Lagoon used oil. An additional benefit of the biomass use is that the resort is able to provide significant financial support to the Pembrokeshire farming community. The eco-credentials of BlueStone extend beyond the Blue Lagoon. To reduce heat loss in the accommodation units, windows are triple glazed and ten inches of insulation has been installed in the floors. In addition, community areas have solar panels. While this may sound like a non-luxury resort, it retains its star rating through providing high standards of care including locally sourced food served in the restaurant as well as a high quality spa experience. The resort attracts 100,000 visitors a year, employs over 700 people – making it one of the largest private sector employers in the county – and injects around £35 million into the local economy annually. These figures are expected to increase due to the recession's effect on domestic tourism. Furthermore, through heating the Blue Lagoon with biomass the local farming community receives tens of thousands of pounds every month.

TYF takes a different approach to sustainability than Blue Stone as they are an outdoor adventure company located in St. David's in the Northern corner of the region. While they do not have space for accommodation, the business is comprised of taking tourists to the local area for different activities (surfing, coasteering, climbing and kayaking), partaking in 'play & learn' activities and an outdoor apparel clothes store. It was found through the KIMERAA report that companies in the coastal tourism cluster in the region were not necessarily interested in knowledge transfer for the purposes of innovation but were engaged in knowledge transfer for the purpose of conservation. This was initially discussed at the TYF interview due to their advancement of marine code standards in conserving the natural landscape of the region for future use (and future business). As the TYF firm, as well as many other firms, uses the marine area extensively throughout the year, the marine code is important for two main reasons: (1) due to the voluntarily nature of membership, the members are active conservationists which will benefit the overall group more so than a government conservation initiative imposed on the region and (2) as the members of the marine code group are those that are using the area for business, and realising the tourists' desire to see the natural surroundings, they know the area and can make amendments to land use accordingly. The latter point was exemplified by TYF when they said that the marine code group will decide to suspend usage of an area when birds are nesting for the long term benefit. Beyond their involvement with the marine code, TYF's founder is passionate about sustainable living and has advanced the St. David's Eco-City Initiative. If successful, this initiative would make St. David's, located in the northern part of SWW, an eco-city. Leading by example, the director has transitioned his firm into a carbon neutral organisation; designed and built an eco-house in the region for his family; and has started two other firms (EcoSapiens & Biomimicry Consultants) devoted to the environment. In terms of the eco-city initiative, the Landscape Art Gallery, Pembrokeshire Coast National Park, PBESCO, and BlueStone all contribute to the aim of the initiative.

In regards to regional economic resilience, what can be taken from this case? From the examples provided, it is clear that the economic recession has not been the catalyst for the ecotourism concentration in the region. Due to the history of the region, which increased in population in the 1960's and 1970's with an influx of alternative thinkers and 'hippies', the conservation and sustainability aspect evolved from that. Taking this into account along with coastal tourism at the time, which promoted other activities beyond the 'sun & sea' due to the poor weather conditions in the region, the need to conserve and sustain was transferred to the coastal tourism industry. Over time, these social and economic veins within the region formed the coastal tourism cluster with an ecotourism emphasis. There are tourist focused firms in the region that are not adopting these principles;

however, most are as they realise the reason the tourists continue to come to the area is for the natural beauty which can only be sustained through conservation efforts. This is the reason that the marine code group works well and that knowledge transfer is based on conservation instead of innovation. While this explains the presence of ecotourism firms in the region, it does little to explain the effect of the most recent macroeconomic shock on the coastal tourism cluster. To that extent, based on the seemingly positive or unchanging effect the shock has had on the region due to increased domestic tourism numbers, albeit only daytrippers (indicates the unchanging nature), it will not be considered a shock for this case.

3.2.3. Economic Resilience in Huelva

The profile of a tourist visiting the Andalusia region as a whole is: semi-qualified, middle-income, young and attracted by the “sun and beach” offer, not taking advantage of the cultural experience (Ramirez-Vallejo et al, 2011). However, this is different than the experience in Huelva where tourism and culture are closely linked. In addition, at the regional level, domestic tourist numbers have increased over the last six years (80% of tourists to Andalusia came from another Spanish region in 2009) (Ramirez-Vallejo et al, 2011). This is also indicative of the changing demands of tourists given the economic crisis. While the original profile for the region had tourists focusing on sun & beach activities, the coastal tourism cluster in the region also promotes golf and cultural tourism which are essential diversifications during this economic crisis. In regards to diversifying through golf, the region is similar, although not at the same level, to the Algarve; however, the other aspect, the cultural emphasis, is new and will be explored. Tellingly, 93% of “sun and beach” tourists never leave their resort (Junta de Andalucía, 2007) to visit any of the 6 world heritage sites or a flamenco performance. These adjacent industries are often not prepared for these visitors: for instance, very few sherry wineries have suitable facilities, skilled custom-facing personnel or organize tours at all. Contrast this with the vast tourism industry around wineries in Napa and Sonoma valleys in California and you can begin to understand the difficulties associated with cultural firm placement and marketing in the region.

Nonetheless, there are active related industries in the region. The most important places to the fishing cluster in the region are also places that are very important to the tourism cluster. They are in locations such as: Matalascañas, Mazagón, Islantilla, La Antilla, and so on. This coastline is one of the most attractive tourist destinations in southern Spain, because of the weather and the landscape with white sand beaches and green pine forests. The natural beauty of the beaches is one of the reasons to visit them, because they are between nature parks and places like the Doñana National Park, the Odiel and Isla Cristina Marshes, the El Portil Lagoon. The beaches are also combined with the historic and artistic heritage, related to the Nobel award winner Juan Ramón Jiménez, the American Discovery, the English bequest, the Carnival, and The El Rocío pilgrimage. Furthermore, combined with the gastronomy above all fresh fish, shellfish or the Iberian Ham (cured ham) the beach area is significant to both the residents and the tourists. The Shellfish Fair is celebrated to promote the importance of the gastronomy in Isla Cristina, related with the fishes and shellfishes, and the value of the products. For example in this fair the shock impact has caused the fall of the prices selling very cheap fishing products.

There are many inter-cluster collaborations between Fishing and Coastal Tourism Cluster, because Tourism and gastronomy are very connected, and Huelva's gastronomy is based in fishing, and cause, due to the economic crisis, some fishing enterprises are diversifying their activity and working in both sector. Although the cluster in Huelva is not actively pursuing

ecotourism, the foundation is available through the successful co-evolution of the fishing and coastal tourism. This supports the argument that the more diverse the region, the more likely it will be able to partake in transversal activities. However, the region can use this same co-evolution to focus on cultural tourism. Cultural tourism is different to ecotourism in its supply characteristics which makes it harder to provide a ‘best-practice example’ like the other cases reviewed. For example, a hotel can clearly be labelled as sustainable and making conservation efforts or unsustainable. While there are some grey areas such as hotels that only wash towels when requested, for the most part the difference in standards, towels vs. biomass, is noticeable. However, for cultural tourism, beyond the restaurants that serve authentic food or the street dancers that perform flamenco, it is difficult to commoditise a specific product, or a specific set of standards, to consumers. Rather, the marketing of the historic attributes of the region, namely the culturally significant sites, museums, and artwork serve as the lure to tourists and the tourist market (hotels, restaurants, souvenirs, tour guides) capitalises on the population of tourists. Based on this, there are no specific best practice examples as the list of popular sites in Huelva has been provided but further marketing is needed to increase the demand as the supply is readily available with local restaurants and historic sites.

There is substantial potential for cultural tourism integration but little marketing of it. If considering cultural tourism as a combination of food, heritage and historic sites then this may take some time to start; however, if focusing cultural tourism on food then the foundation has organically developed but further growth will be based on marketing alongside the other aspects. By-and-large the coastal tourism cluster, as well as the wider region, thrives on sun & sea tourism which for foreign and domestic tourism is alike: cheap and cheerful. When discussing cultural tourism, this can easily be promoted in the region as the foundation is there but either the region needs a complete overhaul to compete with sun & sea or it can be marketed to higher level tourists that would not want to partake in ‘cheap and cheerful’ activities. By using this method, both domestic and foreign tourists could be captured, particularly from the BRIC countries post recession and in providing an authentic experience close to the sea, the existing structure can be used with small changes. This is particularly crucial for more domestic tourist destinations such as Cadiz.

In summary, the Spanish and Welsh coastal tourism clusters have significantly more share of demand from domestic tourism than the Algarve case. This is one of the reasons that the Algarve has disproportionately suffered during the recession when domestic tourism would increase as foreign tourism decreases. Even with the economic problems faced at the national level in Spain, domestic tourism to the Andalusia region is significant and to the Western part of the region, surrounding Huelva / Cadiz, this is also the case. Table 2 indicates factor and demand conditions in the coastal tourism clusters in the analysed regions, identifying related and supporting industries and barriers that are present for the development of the clusters.

Table 2: Overview of Current Coastal Tourism Cluster Issues in Each Case Region

	Huelva	Algarve	SWW
Factor Conditions	No obvious innovation in tourism	Need funding to innovate in tourism cluster	Need better infrastructure connections

Demand Conditions	Limited growth in European market; Renew focus on BRIC countries; Diversify from Sun & Beach as tourists need incentives; Extend tourist season	Reduction in foreign and domestic tourism income; Competitive location; Capitalised on year-round tourist ventures; Tourists want more on holiday-diversify?	Increased domestic tourist numbers as result of crisis.
Related & Supporting Industries	Enhance golf & cultural tourism (short-term) for high growth markets; Long-term goal of ecotourism through change in socio/econ. Systems with present energy cluster.	Golf tourism is already prominent in the region and is doing well in recession; need to increase interest in ecotourism and other complementary products as new focus of development. Some firms already in place.	Coastal tourism already includes ecotourism but related industries can be considered golf tourism.
Barriers	Government regulations; Limited capacity to exploit related industries in relation to tourism; Need industry specific shock to heighten awareness/change practice?	Confusion on eco-tourism; Lack of funding for new SMEs; bureaucracy	Same problems during crisis as prior to it-seasonality, mainly domestic daytrippers & lifestyle entrepreneurs.

Source: Adapted from Ramirez-Vallejo, et al. 2011

4. Conclusive Remarks and Policy Implications

The crisis has exposed the vulnerability that developed countries may suffer as a consequence of the economic turbulence. Even if the majority of countries, regions and sectors had faced important consequences in the last years but some suffered more than others. The different capacity of territories and clusters to adapt, change and evolve in economic terms without breaking social and institutional arrangements is what we can understand as economic resilience.

Economic resilience is a complex feature of economic systems that require further research in order to highlight the factors that induce a greater adaptive capacity to external shocks that induce change that often is not positive and encompasses different types of tensions. These tensions emerged mainly because of dichotomic visions regarding competitiveness and cohesion that subsist in advanced economies and tend to value market-driven solutions as the more efficient and effective that can be obtained.

In this paper, we have explored three different territorial contexts with clusters of similar size to understand in depth the economic resilience of the analysed regions. Studying the coastal tourism, a branch of the Sea cluster that is determined by market pressures and who felt the intensity of the economic downturn, it was possible to illustrate different adaptive capacities for the Algarve, Huelva and South West Wales to answer the questions posed through the reduction of tourism numbers.

It was advocated in the analysis that clusters that are less diversified, with less knowledge content and a lack of entrepreneurial dynamics may be more easily left behind in scenarios of crisis. In this way, it was evident that one of the answers towards additional economic resilience in coastal tourism is the preparation of a set of new tourism products that diversify the destination offer. We have stressed the importance of eco-tourism and cultural products as a means of exploring and exploiting new opportunities that respond to the demands of new tourists and simultaneously create a diversified product with knowledge incorporation, more value added and linked with other economic activities in the destination.

Being very different in their resources, the analysis has evidenced that these three Atlantic regions present resources that can be engaged to foster a more resilient coastal tourism cluster. A collective engagement for detecting and actively exploring new opportunities requires active governance that is attentive to strategic possibilities and latent potential; but, attention to strategy is scarce in times of austerity.

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