Economics and Management Research Projects: An International Journal – ISSN: 2184-0309
Open Access International Journals Publisher

The innovative behaviour of tourism firms

Odília A. M. Meneses - odiliameneses@gmail.com, Faculdade de Economia do Porto
Aurora A. C. Teixeira – ateixeira@fep.up.pt, Faculdade de Economia do Porto

Abstract: Tourism is a growing and an extremely competitive sector. To be competitive, tourism firms need do innovate, responding to the more and more demanding tourist. Nonetheless, research on this field is limited and insufficient. In Portugal, the tourism sector is a highly strategic sector for the Portuguese economy, but there is no evidence on how Portuguese tourism firms innovate. This paper presents a thesis proposal with the aim to provide empirical evidence of the innovative behaviour of Portuguese tourism firm. Trough a direct survey on all the Portuguese tourism firms we intent to investigate firms' innovativeness and their determinants and then compare the results with data from Danish and Spanish tourism firms. The literature on innovation in services and in tourism, in particular Sunbdo *et al.* (2007) taxonomy of tourism firms, provides us a guide to our investigation. It is also our aim to contribute with additional findings on the process of innovation in the tourism industry.

Keywords: Innovation, Tourism Industries, Portugal

JEL Codes: D22, L25, L83

Course Code: MEGI.FEP.UP.PT

1. Motivations and research aims

The importance of the tourism sector in the economy is well recognized by academics, institutions and governments. It includes a large number of services, mostly in the service sector. Tourism is also an extremely competitive sector (Wahab and Cooper, 2001, in Sundbo *et al.*, 2007; WTO, 1999 in Orfila-Sintes *et al.*, 2005). Therefore, several authors acknowledge that to survive and growth in the market, tourism firms need to be innovative (Keller, 2006; Weiermair, 2006; Sundbo *et al.*, 2007).

However, research on the fields of tourism, and in particular on the innovation behaviour in tourism, has been limited and insufficient (Weiermair, 2006). Sundbo *et al.* (2007) made a pioneer contribution to this field presenting a theoretical framework for understanding tourism firms' innovative behaviour. Using a novel taxonomy of tourism firms, the authors compared Spanish and Danish tourism firms in order to identify the differences in the innovativeness of tourism firms and to provide an understanding of these differences.

The main purpose of this paper is to add empirical evidence to the literature on innovation in tourism in the line of Sundbo *et al.*'s (2007) research. In concrete, we provide a detailed picture of the differences in the innovativeness of Portuguese tourism firms, and then compare the results with Spanish and Danish firms from Sundbo *et al.*'s (2007) study. Such empirical contribution is likely to provide additional findings on the process of innovation in the tourism industry.

Departing from a database constructed by us, which covers all types of tourism firms (accommodation, restaurants, travel agencies, attractions, transport companies, etc.), we survey those firms aiming at answering the following research questions: (1) Which category of tourism firms is the most innovative?; (2) Are there differences in innovativeness between different tourism industries?; (3) Are there substantial differences between Portuguese and Danish and Spanish firms?

The present proposal is structured as follows. The next section provides a critical review of the literature with regard to tourism economic importance, innovation in services, and innovation in tourism. Then, Section 3 presents some methodological considerations of our research. Finally, in Section 4 we provide a provisional structure of the thesis and a provisional timetable for the development of our work.

2. A critical review of literature

2.1. The economic importance of tourism

Tourism business development has been the focus of recent studies (e.g., Lee and Chang, 2008). Tourism is identified as "one of the most promising areas of growth for the world economy" (Scheidegger, 2006: 11). More and more nations, conscious of tourism's economic significance, are adopting tourism-oriented policies, increasingly focusing on the promotion of innovation (Keller, 2006).

According Deegan and Moloney (2005:11), the World Tourism Organization defines tourism "as the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited". Such definition, however, does not allow us to identify specifically which activities tourism comprises.

What mainly distinguishes tourism from other sectors is the fact that the activities within tourism are defined in terms of tourist demand (Keller, 2006). Thus, tourism sector is a cross-cutting sector. It includes a wide range of heterogeneous activities such as accommodation, restaurants, travel agencies, transportation and entertainment (INE, 2007a), i.e., activities directly related to the tourist, but also comprises other activities such telecommunications, banking, health services among other services used during the stay of tourists (Jones and Munday, 2004), indirectly related linked with tourists. This means that there is not one "tourism industry", but many "tourism industries" (Jones and Munday, 2004; Leiper, 2008; Baum and Szivas, 2008). Essentially, tourism industries are service industries (Otto and Ritchie, 1996). Moreover, tourism borders are unclear which difficult the exploration of the value of tourism, and so the suitability of some policies at the macro-level, or the recognition of issues at the micro-level, like business strategies in tourism enterprises (Jones and Munday, 2004; Leiper, 2008).

Albeit the discussion around "the tourism industry/industries" expression, academics, politicians, mass media, all recognized the economic magnitude of tourism. According to the World Travel and Tourism Council (2008), the world travel and tourism will contribute to 9.9% of the world's GDP in 2008, and will increase to 10.5% in 2018, and more than 238.3 million people (or 8.4% of total jobs world-wide) will be employed in tourism, in 2008 (WTTC, 2008). Furthermore, the World Tourism Travel Council (WTTC, 2008) expects that 11% of the total world exports will be generated by travel and tourism, in 2008.

Despite the slowdown in growth, Europe remains as the most important tourism region in the world, both as a destination and as a source (CEC, 2007). The contribution of tourism to the European GDP amounts to about 4% on average of all Member States and employs about 4% of the total labour force (CEC, 2006; Leidner and Bender, 2007).

In Portugal, tourism plays an important and strategic role in Portugal economy (Ministério da Economia e da Inovação, 2007). In 2006, The National Strategic Plan for Tourism [Plano Estratégico Nacional de Turismo (PENT)] was developed, whose aim is the development and competitiveness of the sector, given special attention to innovation policies. In 2004, Portuguese tourism activities contributed for 4.6% of GDP and represented 7.8% of the working population, according to the results of the Portuguese Tourism Satellite Account (OECD, 2008).

Regarding the height that tourism has on Spain and Denmark economy, with which we will compare our results, tourism accounts for 2.8% of Danish GDP and 3.6% of total employment (OECD, 2008). In Spain, tourism is one of the supports of the Spanish economy. It accounts for around 11% of GDP and employment, and contributes substantially to offsetting the trade deficit (OECD, 2008).

Consequently, each country (Denmark, Portugal and Spain) represents different tourism destinations with different characteristics (geographical, sociological, economic and managerial) that must be considered in order to analyse and explain the innovative behaviour of tourism firms.

2.2. Tourism competitiveness and innovation

Tourism is a very dynamic sector highly exposed to global competition and characterized by constant transformation (Wahab and Cooper, 2001, in Sundbo *et al.*, 2007; WTO, 1999 in Orfila-Sintes *et al.*, 2005). Therefore, like in other industries of manufacture or services (Tidd *et al.*, 2005), tourism firms need to innovate to survive, because otherwise their offerings are likely to become obsolete and have no demand.

The use of innovation in the tourism sector intends to increase the competitiveness of the firms through the increase of the productivity and improving quality service and/or introducing new products (e.g., customization, ICT interaction) (Otto and Ritchie, 1996; Weiermair, 2006; OECD, 2008; Sundbo,2007). But the tourism has some features that pose other ambitious challenges to tourism firms. Customer orientation plays a fundamental role in tourism innovation. The success of a tourism firms relies on the continuous adaptation of the changes in the demand-side (Weiermair, 2006; Novelli *et al.*, 2005). Nowadays, people's consumer behaviour is continuously changing and tourist's interests are the "experience" that a destination can offer (Nylander and Hall, 2005, and Robinson and Novelli, 2005, in Novelli *et al.*, 2005, Weiermair, 2006). Another important fact is the rise of new destinations, particularly, in emerging economies. For the most mature tourism economies, innovation can be the way to offer new and higher quality products/services and thus compete with new markets (Sheidegger, 2006).

It is important to underline that a higher number of (small and medium) tourism enterprises, compared with other sectors, suffer from lower labour productivity (Sheidegger, 2006; OECD, 2008), a serious problem given that tourism is a labour-intensive industry. Even so, Blake *et al.* (2006) consider that spending on research and development can play an important role in the way resources are efficiently used in tourism firms.

In the following sub-sections, an overview of the literature in innovation in tourism is provided. We begin by analysing the literature on innovation in services. Since tourism sector is mainly a service sector, the characteristics of innovation in services is a useful framework for the study of innovation in tourism (Sundbo *et al.*, 2007). Then, we examine more specifically the literature in innovation in tourism.

2.3. Innovation in services

OECD's Oslo Manual (2005: 46) defines "[a]n innovative firm [as] one that has implemented an innovation [...]". The definition of innovation has been highly discussed. According OECD's Oslo Manual (2005: 47), "[a]n innovation is the implementation of new or significant improved (good or service), or a process, a new marketing method, or a new organizational method in

business practices, workplace organized or external relations". Another relevant aspect of innovation is its functionality (Francis and Bessant, 2005), i.e., innovation has to create value for the firm.

In service industry, due to its nature, there are some aspects to be considered on the definition of innovation in services (Djellal and Gallouj, 1999). Gallouj and Weinstein (1997) argue that the line between product and process innovation in services is not clearly definable. Djellal and Gallouj (1999) go further and consider that a "service is a process, a sequence of operations, […], a mode of organization". Contrary to what happens in manufacturing industry, services are simultaneously produced, delivered and consumed (Chan *et al.*, 1998; Sirili and Evangelista, 1998; OECD, 2005) and consequently the border between process and product is blurred. Additionally, if we consider the fact that services are intangible, heterogeneous and very interactive we realize how difficult is to measure innovation in services (Chan *et al.*, 1998; Djellal and Gallouj, 1999; Howells, 2007).

Another important characteristic in innovation in services is the role of human resources (Chan *et al.*, 1998; Sirili and Evangelista, 1998; Djellal and Gallouj, 1999; Hipp *et al.*, 2000). In services, innovation knowledge is very much embodied in people and in their skills. However, the mechanisms to measure their innovative behaviour are limited (Chan *et al.*, 1998; Djellal and Gallouj, 1999; OECD, 2005). Sirili and Evangelista (1998) also emphasises the critical role played by organisational factors that have direct implications for the conceptualisation and definition of innovation.

In the manufacturing industry the definition of innovation is fully accepted. In fact, innovation theory has been developed on the basis of manufacturing industry theory (Sundbo, 1997; Gallouj and Weinstein, 1997; Djellal and Gallouj, 1999; de Vries, 2006; Howells, 2007). Services only began to receive researchers' attention in the 80s (Tether, 2003; Miles, 2005; Howells, 2007). The reason of this lack of interest in the study of service industry, and in particularly of innovation in services, relies on the fact that service was regarded as a "traditional" and delayed area, without technological progress or any creativity (Gallouj and Weinstein, 1997; Howells, 2007). For instance, in Pavitt's Taxonomy (1984) of technological activities, services were characterized as "supplier-dominated", i.e., as a consumer of technology externally developed by the manufacturing industry. According to Howells (2007), the complexity and diversity of the service sector and the difficulty in measuring innovation and intangible changes in services, have also alienated many researchers.

Barras (1987) (in Miles, 2005) was the first author to undertake a new point of view on service innovation. He argued that innovation in services did not follow the same patterns of innovation as in the manufacturing industry, and thus the traditional view of innovation applied to the services was incorrect. Other authors (e.g., Soete and Miozzo, 2001; Evangelista, 1999; Hipp and Grupp, 2005) have highlighted the sectoral variety of innovation in services.

In Soete and Miozzo's technological taxonomy of services, firms within the category "supplier-dominant" (personal and public and social services) acquire technology mainly from manufacturing suppliers. Firms within the categories "scale-intensive physical networks and information networks sectors" (e.g. transport, wholesale, finance, communications) and "science-based and specialized suppliers sector" (e.g. software, specializes business services), although the first one depends on the technology created in the manufacturing, both are able to invest in in-house R&D and innovations (Soete and Miozzo, 2001). In Evangelista's work (1999) on sectoral patterns of technological change in services, we can see that a distinction between sectors that are technology users and technology providers is also presented. Soete and Miozzo (2001) and Evangelista (1999) recognize interactions with costumers/users, universities and research institutes as an important source of innovation.

In Jong and Marsili's (2006) classification of innovative small firms, transport sector is "supplier-dominated". Hotels and personal services are classified as "resource-intensive", a similar category to "supplier-dominated" but with a higher degree of innovativeness (Jong and Marsili, 2006). Wholesale and computer related services are characterized as "specialised suppliers" with medium-high innovation intensity, and the economic, engineering and architectural services with a high innovative intensity are classified as "science-based" (Jong and Marsili, 2006).

Castellacci (2008) combines manufacturing and services in a new taxonomy stressing the integration of these two areas. Services involving a high level of technology capacity (e.g. engineering, consultancy) are classified as "KIBS" - Knowledge Intensive Business Services. Sectors whose knowledge capability is limited and depend on (manufacturing and services) suppliers (e.g. finance, transport, wholesale) are classified as "supporting infrastructure services" and "personal services" category classifies hotels and restaurants as recipients of advanced knowledge (similar to "supplier-dominated").

Studies have demonstrated that some service sectors (e.g., KIBS) are interactive and creative and can be also a source of technology. However, many services retain the "supplier-dominated" characterization. Furthermore, most of the service sectors developments are achieved through the use of Information and Communication Technologies (ICT) both software and hardware (e.g. Miozzo and Soete, 2001; Cainelli *et al.*, 2004; Howells, 2007; Castellacci, 2008).

The literature on services also highlights the importance of non-technological innovation in services (e.g. Sunbdo and Gallouj, 1998). In fact, some researchers have developed theoretical perspectives of services and innovation considering technological and non-technological innovations. Gallouj (2002) in Bryson *et al.* (2004) and Howells (2007) grouped his reviews by the "technologist", the "service-oriented" and "integrative" approach. And Tether (2003) outlined three other

approaches: the "traditional" view; the "Lille School's interactive view"; and the "strategic positioning" view. Gallouj "technologist" approach and Tether "traditional view" associates innovation in services with the introduction of technology developed by manufacturing suppliers (Tether, 2003; Bryson *et al.*, 2004; Howells, 2007). These perspectives are closely related with the sectoral taxonomies of technological activities of Soete and Miozzo and Evangelista (Howells, 2007). The "service-oriented" emphasises the differences between service and manufacturing and the necessity to attempt service nature (Howells, 2007). Citing Sundbo *et al.* (2007: 89), "[s]ervice is a social behaviour and the personal interaction between the user and the service provider is the core definition of services and, thus, the explanation of service firms' behaviour [...], including their innovative behaviour.". Finally, the "integrative" and "strategic positioning" approaches are concern to the close relation between manufacturing and services industries (Bryson *et al.*, 2004; Howells, 2007). Although, Gallouj's approach "focus more on the innovation per se [...] the "strategic position" approach views innovation within the wider realm of strategy and competitive position of the firms" (Howells, 2007: 39).

2.4. Innovation in tourism

Similar to what happened in the general service sector, the tourism industries have received little attention from researches (Sundbo *et al.*, 2007; Orfila-Sintes and Mattson, 2008). Nevertheless, in recent years, tourism economic importance has triggered the interest in specific studies in tourism, although with many limitations (Weiermair, 2006). The literature emphasises the strong changes in tourism due to the use of the ICT (basically the internet) by transport travellers, hotels, travel and tourism agencies (e.g. Weiermair, 2006; Rayman-Bacchus and Molina, 2001; Sundbo *et al*., 2007).

Sectoral taxonomies of technological activities classify tourism sectors, generally, as users of technological innovation developed by suppliers, i.e., "supplier-dominated" (see Table 1). Also, several service taxonomies (e.g., Evangelista, 1999; Soete and Miozzo, 2001; Jong and Marsili, 2006; Castellacci, 2008) highlight the role of users/costumers as a source of innovation in tourism sector.

Starting from Pavitt's taxonomy (1984), tourism sectors were all characterized as "supplier-dominated" (innovations come mainly from suppliers of manufacturing and in-house innovations are almost inexistent). Laursen and Foss (2003) follows the same criteria. Soete and Miozzo (2001) and Castellacci (2008) do the same classification in the case of hotels and restaurants, and transports are classified as "Scale-intensive physical networks" and "supporting infrastructure", respectively. In-house innovation in the transport sector is weak and heavily dependent on the application of ICT in order to reduce costs (Soete and Miozzo, 2001). Evangelista (1999) uses a different terminology, but with a similar meaning. Transports are "technology users" and hotels are "interactive and IT based", i.e., "supplier-dominated".

Table 1: Tourism firms classification according Sectoral Taxonomies of Technological Activities

	Soete and Miozzo (2001)	Evangelista (1999)	Laursen and Foss (2003)	Jong and Marsili (2006)	Castellacci (2008)
Hotels	Supplier-dominated	Interactive and IT based	Specialized services	Resource-intensive	Supplier-dominated
Restaurants	Supplier-dominated	n.d.	Specialized services	n.d.	Supplier-dominated
Transport and Travel Services	Scale-intensive physical networks	Technology users	Scale-intensive	Supplier-dominated	Supporting infrastructure services - physical

Source: Authors' own

Table 2: Taxonomy of tourism firms

A. Tourism Corporation	Large and Complex company with several branches or tightly-coupled chains. May cover several industries.
B. Tourism Enterprises	Medium-sized, independent and formally organised enterprise. Might be a member of a loosely-coupled chain.
C. Tourism Shop	Small. Owned and run by an individual person or a family. Business life is for the owner mixed with family life.
C. a. Entrepreneurial	Business development has precedence.
C. b. Artisanal	Conservation of family patterns has precedence over business life-style development.

Source: Sunbdo *et al.,* (2007)

Jong and Marsili (2006) taxonomy of small firms, labelled transports also as "supplier-dominant" and Hotels are seen as "resource-intensive", i.e. a sector were the role of suppliers is less evident and with a higher degree of in-house innovativeness (Jong and Marsili, 2006).

Although "technology push" is on the base of many innovations in the tourism sector, we must have in concerned that this innovations are introduced by the force of "demand-pull", i.e., by the need to satisfy tourist exigencies on quality and new products and services.

Through an in depth survey of tourism related studies, we found that specific studies covering innovation in tourism industries focus mainly the hotel sector and seek to provide empirical evidence of the use of innovation in tourism firms (see Appendix B).

Sundbo *et al.* (2007) made a pioneer contribution to this field presenting a theoretical framework for understanding tourism firms' innovative behaviour. Using a novel taxonomy of tourism firms, the authors compared Danish and Spanish tourism firms in order to identify the differences in the innovativeness of tourism firms and to provide an understanding of these differences (Table 2). This taxonomy is based on previous evidence on innovation in services by Sundbo (1997) and integrates other empirical research (Sundbo *et al.*, 2007). The criteria in the construction of this taxonomy cover mainly two aspects: (1) firm size; (2) firm "organizational form". The taxonomy suggests that large size, professionalism, but also entrepreneurship among small tourism firms are important determinants of innovation" (Sundbo *et al.*, 2007:88).

The literature (e.g.: Sunbdo, 1997; Sirili and Evangelista, 1998; Hipp *et al.*, 2000) have identified a positive relation between the firm size and the innovation behaviour of the firms. Also, empirical studies of tourism (e.g. Jacob *et al.* (2004) study of innovation on the tourism sector of Balearic Island; Orfila-Sintes *et al.* (2005) study of innovation activity in the hotel industry; Jacob and Groizard (2007) study of technology transfer in the hotel industry) show that large firms are more innovative than small firms. Larger firms or firms participating in chains of cooperation, have more opportunities to learn and obtain knowledge about managerial and technological innovations (Sundbo *et al.*, 2007).

But this does not mean that small firms do not innovate. The innovativeness between small firms differs according to their type (Sunbdo *et al.*, 2007). Innovative entrepreneurship firms, i.e., firms that are born on the base of innovation or undertake continuously actions involving some risk to improve through innovation, can also be very innovative firms. This leads us to the important role that firm's organizational form has on his innovative behaviour. A firm whose culture encourage innovation and is a learning organization will have more propensity to innovate and therefore, will be more competitive (Pfeffer, 1994, in Hjalager, 2002). However, due to the seasonality that characterize the sector, employees are continuously moving and, although it facilitates the transfer of knowledge between firms, it can be a hamper for the development of a process of innovation within a firm (Hjalager, 2002).

We have not found any research on the innovative behaviour of Portuguese tourism firms, what motivates us to find out how is the actual situation of the development and use of innovation by the Portuguese tourism firms, and moreover to contribute with additional findings on the process of innovation in the tourism industry.

Recalling our research questions, we attempt to provide a detailed picture of the innovation in the Portuguese tourism firms, in order to identify which category of tourism firms, according to Sunbdo *et al.* (2007) taxonomy, is the most innovative and what are the differences in innovativeness between different tourism industries. In addition, this research allows us to compare Portuguese, Danish and Spanish tourism firms in terms of the introduction, development and impact of innovation.

3. Methodological considerations

The project consists of two phases (see Figure 1). In the first phase we collect data from Portuguese tourism firms, in order to provide a detailed picture of the innovativeness of Portuguese tourism firms which will enable us to identify the most innovative category of tourism firms and the differences between different tourism industries. In the second phase, we compare the results obtained in our Portuguese survey with the Spanish and Danish studies in Sundbo *et al.* (2007).

Thus, in order to answer the main research questions we try to replicate the research structure of the pilot study carried out in Balearic Islands by Jacob *et al.*, 2004. It consist in a survey that covers all types of tourism firms, which are directly related with tourists – accommodation, restaurants, travel and tourism agencies, attractions, transport companies, handicraft shops. The target population will be formed by all the Portuguese firms that follow the above criteria. Via Statistics Portugal's database we identify the universe of companies in tourism and how they are distributed. Firms will be grouped according to the CAE.rev 3 - Portuguese Classification of Economic Activities and to the NUT II - Nomenclature of Territorial Units for Statistics (Norte, Centro, Lisboa, Alentejo, Algarve, Região Autónoma dos Açores, Região Autónoma da Madeira). Tourism firms contacts are achieved using data base from associations of tourism firm and Instituto Português de Turismo (Portuguese Tourism Institute).

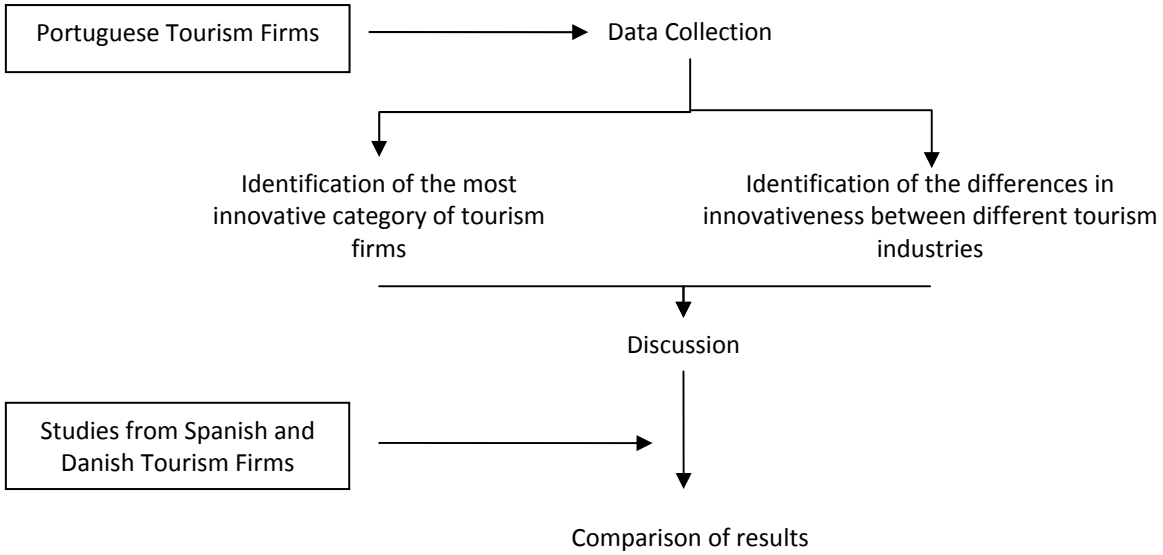
The procedure to obtain the information is a questionnaire. The interviewees must be persons that, given their position and management responsibilities in the firms, have information on the novelties and improvements introduced in their firms in the last 3 years.

This methodology enable us to observe the main trends in Portuguese tourism firms' behaviour, but since it follows the methodology of a study incorporated in the Sundbo *et al.* (2007) analysis, it also allow a more rigorous comparison between the three countries.

The questionnaire is structured in 3 sections. The first section asks basic firm's information (trade name, commercial business address, number of employees, turnover, start up year, type of ownership and management, etc). This first will enable us to classify firms accordingly Sunbdo *et al.* (2007) taxonomy.

The second section attempts to list and describe any novelties or improvements introduced in the last three years (2005-2007). And a third section seeks to characterize firm's innovation activity: objectives, impacts, sources of information, obstacles, and technological basis of innovations. This information will enable us to identify the differences in innovativeness between different tourism industries in Portugal and also add evidence of the characteristics of tourism firms in the sectoral taxonomies of technological activities.

Figure 1 – Research Structure



Source: Authors' own

In order do determine the types of innovations implemented by the tourism firms we use the following classification of variables for innovations:

Innovation as an object consists in:

1. Product Innovation - New or improved services.

2. Process Innovation - New or improved forms of producing an existing service.

3. Innovation in commercialisation and provision (delivery) processes - Novelties or improvements in the distribution, delivery and commercialisation of services.

4. Internal Organisational Innovation - Novelties and improvements in the internal structure of firm, where activities and processes take place.

5. External Organisational Innovation - Establishment of new relationships with other agents, such as strategic alliances, new types of interfaces, etc or enlarging the business operations of firms to an international scale.

6. Market Innovation - Entrance of firm in new markets.

Innovation as an activity can be developed in-house or external and are classified as:

1. Technological innovation – refers to incorporations of technological novelties or improvements.

2. Non-technological innovation – development of novelties or improvement without using technology.

The finally variable attempt to classify the technological area where technological innovations can occur:

1. Information and Communication Technologies (ICT).

2. Other technological areas.

This classification was also used by Jacob *et al.* (2004) and is based on the report from the project Services In Innovation, Innovation In Services – European Innovation Systems (SI4S) (Sunbdo and Gallouj, 1998). This classification is also similar to the methodology followed by the Community Innovation Survey on the service sector.

Furthermore, we have considered the Oslo Manual definition of an innovative firm to distinguish innovative firms from non-innovate firms, i.e., an innovative firms is a firm that have implemented at least one innovation during the period of analysis (2005-2007). The determination of what firms/sectors are the most

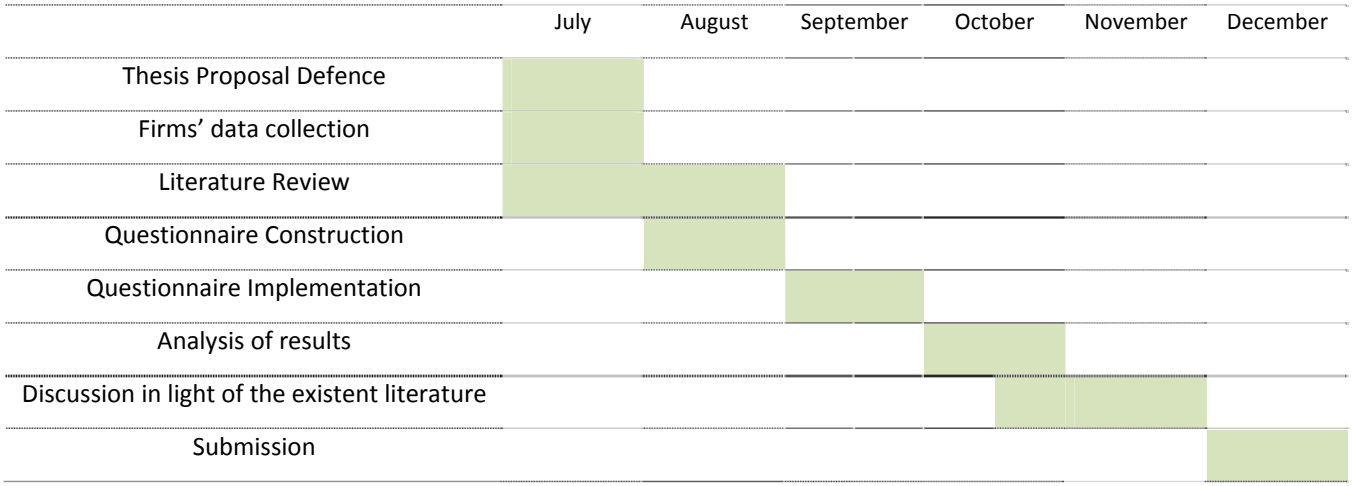
innovative is obtained trough the counting of the number of innovations per firm. This method does not take into account the different types and degrees of innovation and, although very limitative, is used in other related studies and will allow a more rigorous comparison with Danish and Spanish data.

4. Provisional structure and timetable

The planned content of the thesis and a provisional timetable for the work's development can be outlined in the following way:

1. Introduction
2. Critical literature review
3. Methodology
4. Results
5. Discussion of results
6. Conclusion

Table 3: Provisional chronogram of the research work



References

Baum, T., Szivas, E. (2008), "HRD in tourism: A role for government?", *Tourism Management* 29, 783–794.

Blake, A., Sinclair, M., Soria, J. (2006), "Tourism Productivity: Evidence from the United Kingdom", *Annals of Tourism Research* 33, 1099–1120.

Bryson, J., Monnoyer, C. (2004), "Understanding the relationship between services and innovation: the RESER review of the European service literature on innovation, 2002", *The Service Industries Journal* 24, 205-222.

Cainelli, G., Evangelista, R., Savona, M. (2004), "The impact of innovation on economic performance in services", *The Service Industries Journal* 24, 116-130.

Castellacci, F. (2008), "Technological paradigms, regimes and trajectories: Manufacturing and service industries in a new taxonomy of sectoral patterns on innovation", forthcoming in *Research Policy*, doi:10.1016/j.respol.2008.03.011.

CEC (2006), Communication from the Commission: A renewed EU Tourism Policy: Towards a stronger partnership for European Tourism, Commission of the European Communities.

CEC (2007), The Tourism sector in Europe: Main Features, Commission of the European Communities.

Chan, A., Go, F., Pine, R. (1998), "Service Innovation in Hong Kong: Attitudes and Practice", *The Service Industries Journal* 18, 112-124.

Deegan, J., Moloney, R. (2005), Understanding the Economic Contribution of Tourism to Economic Development – The Case of Ireland West, Report undertaken by the National Centre for Tourism Policy Studies and the Centre for Policy Studies (NUI Cork) on behalf of Ireland West Tourism, the Regional Tourism Authority for Galway, Mayo, Roscommon.

Djellal, F., Gallouj, F. (1999), "Services and the search for relevant innovation indicators: a review of national and international surveys", *Science and Public Policy* 26, 218-232.

Evangelista, R. (1999), "Sectoral patterns of technological change in services", *Economics of Innovation and New Technology* 9, 183-221.

Francis, D., Bessant, J. (2005), "Targeting innovation and implications for the capability development", *Technovation* 25, 171-183.

Gallouj, F., Weinstein, O. (1997), "Innovation in services", *Research Policy* 26, 537-556.

Hjalager, A. (2002), "Repairing innovation defectiveness in tourism", *Tourism management* 23, 465-474.

Hipp, C., Tether, B., Miles, I., (2000), "The incidence and effects of innovation in services: Evidence from

Germany", *International Journal of Innovation Management* 4, 417-453.
Hipp, C., Grupp, H. (2005), "Innovation in the service sector: The demand for service-specific innovation measurement concepts and typologies", *Research Policy* 34, 517-535.
INE (2007a), *Conta Satélite do turismo (2005-2007)*, INE Statistics Portugal: Lisbon.
INE (2007b), *Estatísticas do turismo 2006*, INE Statistics Portugal; Lisbon.
Jacob, M., Tintoré, J., Simonet, R., Aguiló, E. (2004), *Pautas de Innovación en el Sector Turístico Balear*, Estúdio no.25 de Fundación Cotec: Madrid.
Jones, C., Munday, M. (2004), "Evaluating the economic benefits from tourism Spending through input-output frameworks: issues and cases", *Local Economy* 19, 117–133.
Jong, J., Marsili, O. (2006), The fruit flies of innovation: A taxonomy of innovative small firms", *Research Policy* 35, 213-229.
Keller, P. (2006), "Innovation and Tourism Policy", in OECD (Eds.), *Innovation and Growth in Tourism*. OECD: Paris, 17-40.
Laursen, K., Foss, N. (2003), "New human resource management practices, complementarities and the impact on innovation performance", *Cambridge Journal of Economics* 27:243-263.
Lee, C., Chang, C. (2008), "Tourism development and economic growth: A closer look at panels", *Tourism Management* 29, 180–192.
Leidner, R., Bender, M. (2007), *The European Tourism Industry in the enlarged community: Gaps and potentials opportunities*, European Community: Italy.
Leiper, N. (2008), "Why 'the tourism industry' is misleading as a generic expression: The case for the plural variation, 'tourism industries'", *Tourism Management* 29, 237–251.
Miles, I., (2005) "Innovation in Services" in Fagerberg, J., Mowery, D., Nelson, R., (Eds). *The Oxford handbook of innovation*. Oxford University Press: New York, 433-458.
Ministério da Economia e da Inovação (2007), *Plano Estratégico Nacional de Turismo*, Ministério da Economia e da Inovação: Lisboa.
Miozzo, M., Soete, L. (2001), "Internationalization of services: A technological Perspective", *Technological Forecasting and Social Change* 67, 159-185.
Novelli, M., Schmitz, B., Spencer, T. (2006), "Networks, clusters and innovation in tourism: A UK experience", *Tourism Management* 27, 1141–1152.
OECD (2005), *Guidelines for collecting and interpreting innovation data – Oslo Manual*. OECD-EUROSTAT: Paris.
OECD (2008), *Tourism in OECD Countries: 2008 Trends and Policies*, OECD Publishing: Paris.
Orfila-Sintes, F., Crespí-Cladera, R., Martínez-Ros, E. (2005), "Innovation Activity in the hotel industry: Evidence from Balearic Islands", *Tourism Management* 26, 851-865.
Orfila-Sintes, F., Mattson, J. (2008), "Innovation behaviour in the hotel industry", *Omega*, doi:10.1016/j.omega.2007.04.002
Otto, J., Ritchie, J. (1996), "The service experience in tourism", *Tourism Management* 17, 165-174.
Pavitt, K. (1984), "Sectoral patterns of technical change: Towards a taxonomy and a theory", *Research Policy* 13, 343-373.
Rayman-Bacchus, L., Molina, A. (2001), "Internet-based tourism services: business issues and trend", *Futures* 33, 589-605.
Scheidegger, E. (2006), "Can state promote innovation in tourism? Should it?" in OECD (Eds.), *Innovation and Growth in Tourism*. OECD: Paris, 11-15.
Sirilli, G., Evangelista, R. (1998), "Technological innovation in services and manufacturing: Results form Italian surveys", *Research Policy* 27, 881-899.
Sundbo, J. (1997), "Management of innovation in Services", *The Service Industries Journal* 17, 432-455.
Sundbo, J., Gallouj, F. (1998), "Innovation in Services", S14S Project Synthesis, Work Package 3-4.
Sundbo, J., Orfila-Sintes, F., Sørensen, F. (2007), "The innovative behaviour of tourism firms - Comparative studies of Denmark and Spain", *Research Policy* 36, 88–106.
Tether, B. (2003), "The sources and aims of innovation in services: variety between and within sectors", *Economics of Innovation and New Technology* 12, 481-505.
Tidd, J., Bessant, J., Pavitt, K., (2005), *Managing Innovation: integrating technological, market and organizational change*, 3rd ed., John Wiley: Chichester.
de Vries, E., (2006), Innovation in services in networks of organizations and the distribution of services, *Research Policy* 35, 1037-1051.
Weiermair, K. (2006), "Product improvement or innovation: What is the key to success in tourism?", in OECD (Eds.), *Innovation and Growth in Tourism,* OECD: Paris, 53-67.
WTTC (2008), *Annual reports, progress and priorities 2008/09*, The World Travel and Tourism Council

Appendix A - Summary description of the main taxonomies focusing on innovation in services

Authors	Industry focus	Taxonomical Categories	Typical Core Sectors	Main sources of innovation/Techno.	
				Internal	External
[Pavitt (1984) extended in Tidd *et al.* (2001)]	Manufacturing and services	Science-based	Electronics	R&D, Basic research	
			Chemicals		
		Scale Intensive	Bulk materials	Production learning and engineering	Suppliers (manufacturing)
			Consumer durables		
			Automobiles		
			Civil Engineering		
		Specialized qualitative suppliers	Machinery	Design	Advanced users
			Instruments		
			Software		
		Supplier-dominated	Agriculture	Production learning	Suppliers
			Services		
			Traditional manufacture		
		Information Intensive (Extended in Tidd *et al.* (2001)	Finance	Software and Systems departments	Suppliers
			Retailing		
			Travel		
Soete and Miozzo (1989) in Miozzo and Soete (2001)	Service industry	Supplier dominated	Personal Services		Suppliers (manufacturing and services)
			Restaurants and Hotels		
			Laundry		
			Beauty		
			Public and Social Services		
			Health		
			Education		
		Scale-intensive physical networks and Information Networks	Transport and travel	Production and process engineering	Suppliers (manufacturing)
			Wholesale		
			Finance	Design	Suppliers (manufacturing)
			Insurance		
			Communications		
		Specialized Suppliers/Science	Software	R&D, Software, IT	Customers, Suppliers (services)
			Specialized business services		
Evangelista (1999)	Service industry	Technology Users	Waste, land and sea transportation		Suppliers (manufacturing)
			Security, cleaning services		
			Legal services		
			Travel services		
			Retail		
			Other financial services		
		S&T based	R&D	R&D	Universities, Research Institutes
			Engineering		
			Computing		
		Interactive and IT based	Advertising	"learning by doing"; "learning by interacting"	Users, Costumers, Suppliers (services)
			Banks		
			Insurance		
			Hotel		
			Trade		
			Repair of motor-vehicles		
		Technical Consultancy	Technical Consultancy	R&D, Design	Universities, Research
Laursen and Foss (2003)	Manufacturing and Services	Scale-Intensive	Manufacture of food	Engineering and R&D departments	specialized suppliers; Science based firms
			Manufacture of refined petroleum		
			Manufacture of dairy products		
		Supplier-dominated	Textiles		Suppliers of equipment and material
			Wood		
			Publishing of newspapers		
		Science-based	Chemical	R&D; Engineering	Universities; Specialized suppliers
			Electronic		
		Crafts	Construction Industries		Suppliers of equipment and material
			Automobile repair shops		
		Wholesale trade	Sale of bulk materials or machines		Suppliers of equipment and material
		Specialized suppliers	Production equipment	Design; Development	Science-based; Scale-intensive firms
			Control Instrumentation		

		Scale-intensive services	Transport			Suppliers of equipment and material
			Cleaning service			
			Supermarkets and Warehouses			
		Specialized services	Hotels			Suppliers of equipment and material
			Restaurants			
			Taxi companies			
		ICT intensive services	Business Services			Suppliers of equipment and material
			Financial Services			
Jong and Marsili (2006)	Manufacturing and Services	Science-based	Chemicals		R&D, Specialized personnel	Scientific developments, Customers
			Machinery			
			Office			
			Electrical Equipment			
			Economic Services(e.g. consultants)			
			Engineering & Architectural services			
		Specialized Suppliers	Wholesale		Specialized personnel	
			Computer and related services			
		Supplier-dominated	Metals			Suppliers
			Transport			
			Construction			
		Resource-intensive	Hotels		R&D	Suppliers
			Personal Services			
Castellacci (2008)	Manufacturing and Services	Advanced Knowledge Providers	Knowledge-intensive Business services	Software	High level of technology capacity	Users and universities
				R&D		
				Engineering		
				Consultancy		
			Specialized suppliers manufacturing	Machinery		Users
				Instruments		
		Mass Production Goods	Science-based manufacturing	Electronics	R&D	Universities; Users
			Scale-intensive manufacturing	Motor vehicles	R&D	Users; Suppliers (machinery)
		Supporting Infrastructure Services	Network infrastructure services	Telecommunications	Limited capability to develop new knowledge	Users; Suppliers (software)
				Finance		
			Physical infrastructure services	Transport		Suppliers (machinery and software)
				Wholesale		
				Trade		
		Personal Goods and Services	Supplier-dominated goods	Textiles		Users; Suppliers (machinery)
				Wearing		
			Supplier-dominated	Hotels	Training	
				Restaurants		

Appendix B

Level of analysis (micro/macro)	Method of Research (appreciative/empirical)	Authors	Key points in analysis
Micro	Appreciative	Hjalager, A. (1997)	Distinguish 5 types of innovation in tourism.
		Faché, W. (2000)	Focuses on how to improve the service in tourism by using strategies further both incremental innovative improvements of service.
		Rayman-Bacchus and Molina (2001)	Highlight the importance of Internet in the development of tourism services.
		Hjalager (2002)	Discuss the various definitions of innovation in tourism.
		Stamboulis and Skayannis (2003)	Analyses the new forms of tourism and the diffusion of ICT with a pervasive effect on the creation, production and consumption of the tourist product.
		Lordkipanidze *et al.* (2005)	Entrepreneurship and sustainable tourism development.
		Lebe, S., Milfelner, B. (2006)	Works out an innovative model for tourism destination in rural areas.

		Sheidegger, E. (2006)	Discuss the role of the State promoting innovation in tourism.
		Keller, P. (2006)	Provides a synthesis of the key policy questions which relate innovation and tourism.
		Rosenberg, N. (2006)	Discuss the impact of technological innovation and how it is transforming the tourism business model.
		Weiermair, K. (2006)	Discuss the characteristics of the innovation process in tourism with emphasis on product development in tourism.
		Brackenbury, M. (2006)	Examine the ways in which tour operators approach innovation and competitiveness.
		Decelle, X. (2006)	Provide a dynamic conceptual approach to innovation in tourism. Discuss the sources of innovation in tourism.
		Vadell and Orfila-Sintes (2008)	Discuss the importance of factors determining the internet innovation for external relations in the lodging industry.
		Orfila-Sintes and Mattsson (forthcoming)	Develop and test a model of innovation behavior in the hotel industry. The model relates four types of innovation—i.e., management, external communication, service scope and back-office—to the key determinants: service provider characteristics, customer competences and the market drivers.
	Empirical	Pérez, A., Llaudes, A.	Study the effects of technological Innovations on the Spanish tourism sector.
		Nodder *et al*.	This paper focuses on New Zealand small and medium tourism enterprises and their use and adoption of ICT.
		Kaldis *et al.* (2003)	Examine the role of technology in the area of hotel distribution and highlight important trends and explore their potential evolution in Athens.
		Jacob *et al*. (2004)	Evidence of innovation in the tourism sector in the Balearic Islands.
		Orfila-Sintes *et al.*, (2005)	Provides empirical evidence on technological activity in the Spanish sector, in particular for the tourist accommodation in the Balearics. The paper also discusses the precise definition of innovation in accommodation services.
		Jacob and Groizard (2007)	Provides a comparison between the number and the type of technologies transferred among firms located in the original destination (Balearics) and two Latin American destinations (LAC) to document differences in innovative and absorptive patterns at hotel establishment level.
Macro	Appreciative	Mattson *et al.* (2005)	Proposes a model of an attractor-based innovation system for understanding tourism.
		Guerin, A. (2006)	Examine the French initiative for innovation in tourism.
		Grech, J. (2006)	Examine the challenges and barriers faced by the Australian tourism industry.
		Pegler, B. (2006)	Describes the process of innovation in tourism in Malta.
Micro/Macro	Appreciative	Sundbo *et al*. (2007)	Presents a theoretical framework for understanding tourist firms' innovative behaviour and innovation systems in tourism.
Micro	Appreciative/Empirical	Hassanien, A., Baum., T. (2002)	Argues that most innovation in hotel industry is obtained through renovation. Presents an empirical study of attitudes to hotel renovation in Egypt.