Applications of open innovation models in the tourist sector: Canary Islands experiences

Abstract. The purpose of this article is to present some applications of open innovation methods in the Canary Islands. The authors set out to verify the hypothesis that open innovation methods can foster the growth of innovative culture in participating companies and generate new ideas and projects. The study is based on qualitative data collected through observation and during interviews with those responsible for organizing open innovation programs in the Canary Islands, closely related to the tourism sector. The authors identify benefits derived from new ideas and innovative projects, which help to generate competitive advantages. They conclude that the application of open innovation methods has stimulated innovative culture in tourism companies that have been able to develop innovative projects. Open innovation can therefore be regarded as an effective method of creating collaborative environments for different stakeholders involved in the process that can generate benefits for all parties involved.

Keywords: open innovation, innovation management, tourism, hospitality

JEL Codes: O3, Z320


* Universidad de Las Palmas de Gran Canaria (Spain), Department of Economics and Business Management, orcid.org/0000-0002-7036-9693, email: lucia.sc.109@gmail.com

** Universidad de Las Palmas de Gran Canaria (Spain), Department of Mapping and Graphic Expression in Engineering, orcid.org/0000-0001-8140-9008, email: josepablo.suarez@ulpgc.es

1 Thesis/work co-financed by Agencia Canaria de Investigación, Innovación y Sociedad de la Información de la Consejería de Economía, Industria, Comercio y Conocimiento and by the European Social Fund (ESF) Integrated Operational Program of Canary Islands 2014-2020, Axis 3 Priority Theme 74 (85%).
1. Introduction

Because of its very nature, tourism undergoes constant changes. Faced with its dynamic and complex structure, entities in the public and private sector have to invest in alternatives defined under the framework of innovation management, which are viewed as a generator of competitive advantage (Brink, 2017; Martínez-Pérez et al., 2019). However, some researchers believe that it is no longer enough to apply closed, structured and defined elements of innovation as has been the case so far. A new approach is required under the umbrella of open innovation, to address the new challenges faced by the global tourism sector after the health crisis caused by the pandemic.

The concept of open innovation (OI), coined by Chesbrough (2003), is explained as follows: “Valuable ideas can come from inside or out of the company and can go to the market from inside or outside the company as well. This approach places external ideas and external paths to market on the same level of importance as those reserved for internal ideas and paths to market during the Closed Innovation era” (Chesbrough, 2003). The traditional model of innovation assumes a closed approach and involves generating, developing and commercializing ideas from a linear and internal perspective (De Jong et al., 2008). Meanwhile, the open innovation model consists in including various groups of interest, enabling them to participate in all stages of conceptualising and implementing ideas from within and outside the company (Chesbrough, Vanhaverbeke, & West, 2006). However, there is no single definition of open innovation (OI), just as there is no single definition of innovation. Although the field of study of OI has been considerably expanded, its interpretation, characteristics and scope have yet to be specified (Elmqquist, Fredberg, & Ollila, 2009; Fernandes, Ferreira, & Peris-Ortiz, 2019). Von Hippel & Von Krogh define the phenomenon of open innovation in terms of the following characteristics: (1) voluntary disclosure of knowledge; (2) constant availability; (3) the continuous and dynamic iteration of participants (Von Hippel & Von Krogh, 2006). Laursen & Salter interpret the concept of IO as the possibility of taking advantage of external innovation resources for the benefit of the company (Laursen & Salter, 2006); while Henkel defines it as the disclosure of knowledge that organizations previously tended to hide (Henkel, 2006).

One of the most recently proposed definitions of OI is the one given by San-Martín: “The set of actions and practices by which companies incorporate agents that traditionally have not participated in it into the innovation process, be they internal to the organization or external to it, through the integration of external knowledge, dissemination external knowledge of internally created, and cooperation in the creation of knowledge” (San-Martín-Albizuri, & Rodríguez-Castellanos, 2012).
One of the advantages of the open innovation model is that it can be implemented by any entity, regardless of size or sector, but it requires, among other things, co-creation spaces for exchanges between different interest groups (clients, suppliers, universities, competitors, etc.) and company’s firm commitment to the process (Laursen & Salter, 2006; Lei et al., 2017). Likewise, the level of market acceptance of final commercialized solutions increases when the participation of stakeholders in the idea creation process is actively and continuously stimulated (Abbate, Coppolino, & Schiavone, 2013).

Although the benefits of OI are already justified by various studies on collective collaboration (Hargadon & Bechky, 2006; Thrift, 2006), few applications exist in the tourism sector. Although many tourism companies try to innovate, the level of commitment in this respect is not sufficient to give rise to an innovative culture (Pikkemaat & Peters, 2016). In addition, innovations introduced in the tourism sector tend to focus on the processes of production, distribution and delivery of tourism products/services and are mainly limited to purely technological innovations in the field of ICT and energy efficiency. However, it is necessary to push for innovation in all the company’s processes (strategic, operational, support and management), particularly for non-technological innovation, as tourism companies have a clear focus on services/processes (Iglesias-Sánchez, Jambrino-Maldonado, & de las Heras-Pedrosa, 2018; Iglesias-Sánchez, Correia, & Jambrino-Maldonado, 2019).

To support the tourism sector, it is crucial that public entities, such as universities or research centers, get involved in supporting the adoption of open innovation models with knowledge, training, methods and infrastructures (Colombo, Piva, & Rossi-Lamastra, 2014; Martínez-Pérez et al., 2019).

There is, however, a lot of skepticism on the part of the tourism sector as regards attempts to switch from its traditional innovation management system to an open and collaborative approach (Hoarau, 2016; Lim et al., 2021). Until companies understand that collaboration is better than competition and that dynamism adds value at all levels, there will not be a significant evolution in the application of open innovation methods and processes (Iglesias-Sánchez, Correia, & Jambrino-Maldonado, 2019).

Tourism companies that have come to view the open innovation model as a source of competitive advantage are adopting methods guided by public and private partners that support them in the process of change (Lim et al., 2021). In the Canary Islands, there are already several entities that have signed up to this new paradigm, either from the University of Las Palmas de Gran Canaria, or from other organizations that facilitate adaptation.

After briefly analyzing the concept of open innovation this article focuses on cases of its application in the Autonomous Community of the Canary Islands, Spain.
This article aims to verify the following hypotheses:

H1: Open innovation methods promote a culture of innovation in tourism companies.

H2: Open innovation methods generate new and innovative projects in tourism organizations.

2. Methods of open innovation applied in the Canary Islands

In the Canary Islands, there has been a growing interest in the application of open innovation methods or models in the last five years. Many companies, both public and private, have expressed their willingness to participate in such projects in cooperation with the Canarian Universities or public bodies (Government of the Canary Islands, Chambers of Commerce, Canary Islands Technological Institute, etc.). This interest is also manifested, although to a lesser extent, by proposals associated with open innovation models carried out and promoted independently by private companies.

Because this is a very dynamic area and public and private entities innovate in their own ways, it would be difficult to list all existing formats that are presented annually. However, among the formats most frequently used to generate innovation in the Canary Islands are Hackathons and Living Labs.

The cases analyzed in the article are associated with other formats, all of which involve the application of agile methods, Design Thinking and Lean Startup (Bortolini et al., 2018).

Hackathons are among the most prominent and widely used formats or models for promoting open innovation in the Canarian environment. Because of their importance for tourism companies, they are described in more detail in the following section.

2.1. Hackathon

The term „hackathon” is a blend of „hack” and „marathon”, and describes a method that has been widely used by companies and organizations of all kinds over the last two decades (Mumm, 2012). Hackathons are also known as „hackfests”, „codefests” or „hack days”, and their popularity has been steadily growing.

Initially, the term was used to describe intensive meetings organized by programmers and computer scientists to collaboratively develop open software. However, the format of these meetings, and consequently the terminology, has
come to be used to define events that bring together people with multidisciplinary profiles, who must provide a solution to challenges proposed in a short period of time (generally 24-48 hours) (Calco & Veeck, 2015; Marques & Borba, 2017).

Registered hackathon participants form multidisciplinary teams with the aim of solving particular challenges. These challenges are generally proposed by companies from various sectors, non-profit organizations or even public entities/institutions. Participants live and work together with the purpose of solving the challenges in a short period of time and gaining recognition for their work (Briscoe & Mulligan, 2014; Faché, 2000).

The final objective is to carry out projects of possible impact for the company/entity that seeks to generate products and services with a special innovative character. Among the criteria for the evaluation and selection of projects, the following are usually considered (Briscoe & Mulligan, 2014; Faché, 2000; Mumm, 2012):

1. Degree of maturity achieved (by identifying the initial and final stages of the challenge development project);
2. Quality of the teams (composition, integration, method and hierarchy used to organize the tasks and identify their strengths and weaknesses);
3. Degree of technological innovation;
4. Degree of social innovation (integration, development, inclusion...);
5. Presentation quality.

The main method underlying hackathons is project-based learning, where participants are the protagonists of their own learning (Blumenfeld et al., 1991; Thomas, 2000). For participants of hackathons, the acquisition of knowledge is as important as the acquisition of skills and attitudes (Suárez et al., 2015). The emphasis on teamwork is one of the greatest values of this method: combined knowledge and integration of different professional profiles in the course of collaborative and inclusive work generate positive synergies for the development of projects (Briscoe & Mulligan, 2014; Lara & Lockwood, 2016).

Events like hackathons achieve positive results for businesses and for participating individuals, who learn to collaborate with other professionals in a new and unfamiliar environment. Because the period of time for creating something new is relatively short participants have to work intensively and with a high level of concentration. This situation stimulates creative thinking and develops the ability to design new services or products. Other advantages of hackathons include:

- opportunity for the company promoting the hackathon to attract talented participants;
- collection of many innovative ideas in a very short time;
- skill development (stimulation of creative thinking);
- relatively low cost with potentially highly valuable benefits for companies;
- promotion of the company’s innovative image;
- synergy effects emerging in multidisciplinary teams.
Various hackathon formats have been proposed for different sectors of activity, which can be carried out by public or private entities. The development of this format in the Canary Islands has been associated with the University of Las Palmas de Gran Canaria, which provides talented participants for such events. The following are three examples of hackatons held so far:

1. Hack for Good Canarias, organized by the Telefónica Chair Network and the University of Las Palmas de Gran Canaria (ULPGC). It is held for social purposes and its format has been established over seven annual editions².

2. Think in Innovation, organized by Lopesan Hotel Group and the University of Las Palmas de Gran Canaria. The hackton features strategic challenges proposed by the hotel company, which is interested in generating innovative projects and attracting talent. There have been three editions of this project in the hackathon format, the last one in November 2017³.

3. Smart Green Island Makeathon organized by ITQ GmbH in collaboration with more than 30 international universities, including the ULPGC. Its goal is to create real prototype solutions related to IoT, automation, smart home, robotics, smart production, smart farming, smart health, smart and green energy, smart mobility and connected systems. After five editions, it has established itself as one of the most important hackathons on the island of Gran Canaria because of its global orientation⁴.

Many other hackathon formats have been used in the Canary Islands to propose solutions to various challenges, such as Lean Hack, a hackathon to develop technological and innovative solutions to economic and legal challenges in collaboration with the ULPGC or the Blue Weekend, a hackathon aimed at solving challenges associated with the marine sector in collaboration with the University of La Laguna.

The frequent use of hackathons by organizations and entities from different sectors of the Canarian economy, and the growing participation of companies, professionals and academic institutions are a clear indication of how useful this method of open innovation can be.

Two hackathons developed in the Canary Islands in relation to the tourism sector were analysed in depth, directly or indirectly, and are presented in section 3.

---

² The seventh edition was held in March 2019. The 2020 edition has been postponed due to the current health situation. For inquiries about new editions: https://hackforgood.net/las-palmas/
³ Information about editions held to date: http://www.thinkinnovation.com/es/
⁴ The fifth edition was held in March 2020. For inquiries about new editions: https://www.itq.de/en/smart-green-island-makeathon/
2.2. Innovation Labs / Living Labs

Another method or format used to generate innovation in tourism is known as Living Labs or innovation laboratories. Living labs held in the Canary Islands have focused on different and produced positive results.

The living labs (LL) concept has been widely studied in the context of open innovation. In different parts of the world, particularly in Europe, a number of projects and applications have been carried out to promote collaboration between various agents (clients, companies, public bodies, etc.) and to test applicable solutions in a specific and controlled space.

According to the most popular definition, formulated by Eriksson, Niitamo, and Kulkki (2005), a living lab is “a user-centric research method for sensing, prototyping, validating and refining complex solutions in multiple and evolving real life contexts”. Other definitions have also been proposed (Ballon, Pierson, & Delaere, 2005; Bergvall-Kåreborn et al., 2009; Feurstein et al., 2008). Ballon defines living labs as “an experimentation environment in which technology is given shape in real life contexts and in which (end) users are considered co-producers”. For Feurstein, LL is “a systemic innovation approach in which all stakeholders in a product, service or application participate directly in the development process”. The definition compiled by Bergvall-Kåreborn, combines the different nuances highlighted by the previous authors: “A living lab is a user-centric innovation milieu built on everyday practice and research, with an approach that facilitates user influence in open and distributed innovation processes engaging all relevant partners in real-life contexts, aiming to create sustainable values.”

In short, for the tourism sector, living labs are an excellent method of validating innovations that can be tested by users of tourism services (Jernsand, 2019). The Canary Islands are a perfect setting to observe the behavior of tourists or, more generally, consumers of products/services. Insights gained in this context can be extrapolated to other parts of the country afterwards. The sociodemographic characteristics of people who live in and visit the Canary Islands can be used by companies and organizations to test new creations and obtain representative results that can be generalized for the Spanish population.

A number of innovative LL projects related to different sectors of activity have been developed over the last decade. The following are examples of living labs applied in the Canary Islands:

1. Global Tourism Safety Lab: The main purpose of the project, organized by the Ministry of Tourism, Industry and Commerce of the Government of the Canary Islands, is to guarantee the health and safety of tourists and residents in

---

the Canary Islands, by adapting services to the new protocols for action against COVID-19. Various working groups have been created to develop proposals and solutions in different areas of activity related to the tourism sector, from the management of transport infrastructures to the provision of commercial, leisure and cultural services.

2. Smart Tenerife Living Labs⁶: a project developed in 2014 by the Spark Compass company, one of the pioneers in implementing living labs in the Canary Islands. Their products related to Smart Destinations were validated in a series of technological tests conducted in different settings (by two hotels, a shopping center and an office building).

3. BlueBay Living Lab Hotel⁷: in 2018 the BlueBay Hotels hotel chain, in collaboration with other tourism companies and public bodies, such as Grupo SATOCAN and the Instituto Tecnológico de Canarias (ITC), developed a open innovation project of a laboratory hotel for testing new products and services on the island of Gran Canaria: Hotel Beach Club, San Agustín.

4. DESAL+ LIVING LAB R+D+I platform⁸: The joint collaboration and cooperation of R+D+I in the Macaronesia region (Canary Islands, Cape Verde, Madeira and Mauritania) for the common project of water desalination and renewable energies. The Living Lab format was created in 2020 by Desal+ company to test new ICT solutions developed by entities and companies participating in the project.

5. Sailing Living Lab⁹: is a project organized to generate and test new navigation technologies and various projects conducted on the high seas. It is a laboratory ship (Acrobat) that travels around the world looking for collaborations with companies and individuals in order to continue creating new maritime developments.

While the Living Lab concept is over 15 years old, it has become very popular in the Canary Islands only in the last 5 years. A number of organizations, such as the Factoría de Innovación Turística, FIT Canarias, provide LL services using their own infrastructure to help companies in the tourism sector validate and develop innovative marketing projects that can be tested in virtual and real environments.

---


⁸ Se pone en marcha el portal de la Plataforma de I+D+i DESAL+ LIVING LAB (2020, April 20). Retrieved from https://proexca.es/se-pone-en-marcha-el-portal-de-la-plataforma-de-id-i-desal-living-lab/

⁹ La Palma será punto de parada del proyecto ‘Sailing Living Lab’ (2019, February 5). Retrieved from https://www.canariasdiario.com/la-palma-sera-punto-de-parada-del-proyecto-sailing-living-lab
Other models/methods of open innovation are also being applied in the Canarian tourism sector. However, the trend is clear: the tourism sector is relying on open innovation methods to differentiate itself by involving all partners, with the aim of generating projects that satisfy their particular needs.

The following section contains a detailed description of the research procedure used to investigate five applications of OI methods in the Canary Islands.

3. Research procedure

In accordance with Abarca, et. al. (2013, pp. 73-247) the study described in the article was an example of qualitative research involving observation and interview data collection (empirical research). The research procedure consisted of four steps:

1. In the first step, a preliminary study of the innovative environment associated with the tourism sector in the Canary Islands. Contact was established with public and private entities that had held events involving open innovation methods. In parallel, the investigators attended some of the events either as participants or guests.

2. In the second step, selected companies were contacted to arrange an interview with the person responsible for the event in question. 5 interviews were held in total. Appendix contains the list of questions that were asked during each interview, which lasted 30 minutes on average. A summary of assessments made by each of the interviewees regarding the method applied in each case is presented in section 4.

3. A quantitative analysis was carried out on the data regarding the case of Lopesan Hotel Group: Hackathon Think in Innovation, which has been published as an article in another publication (Santana-Cerdeña & Suárez-Rivero, 2013).

Fig. 1. Preliminary preparation

Source: compiled by the author.
During the two editions of the hackathon, a satisfaction survey was carried out to find out participants’ opinions about the event. The first edition was attended by 50 participants and the second one – by 55. Participation limits were set by the organizer depending on the infrastructure available to accommodate all participants. In each edition, the management of the Lopesan Hotel Group used their annual SWOT analysis to determine what challenges to pose and selected winning projects. Although this step was described in a separate article, it is mentioned here as part of the complete procedure.

4. The fourth step involved analyzing results obtained from direct observation of OI events (with or without participation) and from the interviews with their organizers.

4. Open innovation cases analyzed in the study

A number of open innovation models are being developed with interesting results in Spain as a whole, and in the Canary Islands in particular. Various companies in the tourism sector have got involved in open innovation or have chosen to participate in external innovation programs that involve different actors. One can observe an evolution of how this type of innovation is applied by different tourist companies and those from other sectors either in pursuit of specific positive results or as a perfect setting for projecting the company’s innovative image.

4.1. Think in Innovation – Lopesan Hotel Group

The first case is an open innovation contest called Think in Innovation, organized by the hotel chain Lopesan Hotel Group. A detailed description of this application case can be found in the article: „Short-term open innovation hackathons as a method to improve tourism innovation” (Santana-Cerdeña & Suárez-Rivero, 2021).

Lopesan Hotel Group is a multinational company based in Gran Canaria, with more than 40 years of experience and a workforce of more than 4,000 employees. In addition to its main activity as a provider of accommodation facilities (16,500 beds in 22 hotels), the Group also owns companies dedicated to construction, leisure, services and real estate development. It is the leading tourism company in the Canary Islands and one of the top ten in Spain. One of the strategic goals of the T is to position itself as an organization with an innovative character and a participatory spirit. In accordance with its mission, vision and values, Lopesan has opted for ideas competitions as a method to encourage participation and

---

10 https://www.lopesan.com/
generate innovation from inside and outside the company. The Think in Innovation contest has evolved and changed over the six editions organized so far.

During the first editions, Think in Innovation featured a series of online challenges for the company’s employees, who could propose creative and innovative solutions. Already in the third edition (2014), the organizer recognised that the ideation process would benefit from the inclusion of the university community and clients, who could contribute their own ideas regarding the challenges drawing on insights from their particular perspectives. Since then, the Lopesan Hotel Group has come to appreciate great contributions that can be made by the different approaches offered by the different participants. After each contest, the company decides which solutions developed by the participants will be carried out as innovation projects.

In 2015, Lopesan Hotel Group collaborated with Telefónica in the Hack for Good Canarias event, which prompted the Group to choose the hackathon format for future editions of Think in Innovation. As a result of collaboration between the Lopesan Hotel Group and the University of Las Palmas de Gran Canaria, which was formalized by establishing the Lopesan-ULPGC Chair, the 4th edition of the Think in Innovation contest was developed as a hackathon. The 5th edition in 2016 produced even better results. The change of format was expected to open new ways for the reception of innovative ideas in the company and foster open innovation by involving other participants, such as subject matter experts and University students and graduates. The event is now used as a way of solving challenges facing the organization and helps to project an image of an innovative and young company.

**Competition procedure**

The best client idea, selected and evaluated by the company’s corporate directors, is awarded and subsequently developed internally by the R&D&I Department.

Ideas presented by the company’s employees are evaluated in the same way by the corporate directors, who select the best 10-15 in each edition. These ideas are later presented during the Hackathon, where employees, students and higher graduates form multidisciplinary teams that develop a particular concept until it becomes a concrete project.

Thanks to this format, participants from different backgrounds are encouraged to cooperate, combining the experience and know-how of the company’s employees and innovativeness and fresh perspectives of students and graduates. This collaboration ensures that results can actually be applied in the company.

After 48 hours of hard work made up of training pills\(^{11}\), mentoring from professionals from outside and inside the company, and a lot of teamwork (between

\(^{11}\) A concept used in microlearning, where the learning content is divided into small blocks with a specific learning goal.
3 to 7 people), the ideas are evaluated by the jury (the company’s directors and external mentors). After a brief presentation by each team, the projects are evaluated based on the following criteria:

1. 85% of the score:
   - Novelty of the product, service or process
   - Degree of idea maturity achieved during the Hackathon
   - Competitive advantages offered to the company
   - Financial viability.

2. 15% of the score is awarded depending on the number of positive reactions to a given idea expressed by clicking “Like” on the official THINK IN INNOVATION page and its social network profiles.

Finally, the winning projects are implemented in the company through its R&D&I Management Procedure, which involves employees who participated in the hackathon. In this way, the entire process generated during the event has a real impact on the company’s internal processes, creating innovation projects that improve employee and customer experience, and bring strategic and economic benefits to the company.

Think in Innovation is a hackathon with a specific focus on innovation in tourism. The participants in the Hackathon were surveyed to find out their level of satisfaction during the two editions analyzed. The results of these surveys are described in a separate article (Santana-Cerdeña & Suárez-Rivero, 2021). A summary of these results is presented below:

1. A 100% response rate was obtained during the two editions: 50 participants in the first edition, in 2015; and 55 participants in the second edition, in 2016.

2. The generation of innovative culture is demonstrated by the increased participation of Lopesan Hotel Group employees, and the growing number of repeat participants.

3. The participants’ perception of the Hackathon was positive and improved in 2016 in the following aspects:
   - participants see the event as a means of meeting people with special interests and skills (networking);
   - it is a better way to find solutions to the company’s challenges;
   - it helps participants to acquire skills and develop attitudes necessary for a future professional career.

The two winning projects developed during both editions were implemented internally and helped the company cut costs and improve processes. In 2015, the winning project was to provide cleaners with a smartwatch to optimize the demands of a high-volume hotel. In 2016, the winning project was developed to streamline the management of the hotels’ operational assets (linens), facilitating the monthly and annual inventory of hotels with more than 1000 beds. Other
interesting projects that did not win were recorded in the company’s innovation inventory as ideas to be developed in the future. The projects can be consulted on the website\textsuperscript{12}.

Despite the positive results obtained in the first two editions, in 2017 the hackathon format was replaced by a project aimed at testing the functionality of a humanoid robot called Pepper in hotels.

Ultimately, the Think in Innovation project was discontinued for various reasons:
1. The company’s financial resources were reallocated to support its strategic expansion and internationalization projects which were regarded as a priority.
2. No tangible (economic) results of the projects were recorded following the events. It was difficult to measure cost savings.
3. The project was rejected by some team members because it entailed with higher workload that was not rewarded with proper recognition.
4. Some members of the management team did not see the process as a generator of benefits (resistance to change).
5. Because participating employees lacked proper academic background, it was difficult to implement ideas internally.
6. The Innovation Unit in the company was dissolved.

Óscar Herrera, Director of Systems and Communication of Lopesan Hotel Group (2018) and member of the innovation unit in charge of organizing and promoting the Hackathon Think in Innovation, was interviewed about the project and its internal development. The project he promoted for over 5 years had a great internal impact on the company and facilitated the implementation of innovative projects that had not been possible earlier. In general, he viewed the event as something valuable, while recognizing strong and weak points of the process and the need to focus more on the application of open innovations. He pointed out that the tourism market had yet to fully appreciate collaboration as something desirable. In his opinion, the presence of large tour operator companies makes cooperation difficult. In addition, he insisted on the transmission of internal knowledge in large companies to facilitate the creation of an inventory of ideas and applicable projects.

\textbf{4.2. IntraTEAM – FIT Canarias (The Canary Islands Tourism Innovation Factory)}

The Canary Islands Tourism Innovation Factory (FIT Canarias) aims to promote the growth of creativity and innovation in the tourism sector. It serves as a meeting point for businessmen and professionals to promote continuous inno-

\textsuperscript{12} http://www.thinkininnovation.com/en/
vation as a means of achieving excellence in tourist destinations and helping tourism companies become more profitable and competitive. FIT Canarias intends to face the challenges of tourism through collaborative work and by developing common projects that generate new products, services, processes and applications, particularly with the end user in mind.

FIT Canarias is made up and promoted by four institutions: the Santa Cruz de Tenerife Chamber of Commerce; the Island Council of Tenerife (through Turismo de Tenerife, and the Science and Technology Park); the Adeje City Council and Ashotel (hotel association of the province of Santa Cruz de Tenerife).

Among various actions undertaken by FIT Canarias to promote innovation, the IntraTEAM program stands out: Intrapreneurship and Innovation in Tourism (FIT Canarias, 2017). The purpose of the intrapreneurship program is to enable companies in the tourism sector to generate and develop solutions, projects and/or ideas on sustainable tourism and circular economy that address their internal needs and boost their innovation and competitiveness.

**Program procedure**

Initially, FIT Canarias proposes a series of challenges related to the circular economy and sustainable tourism. Participating companies must choose challenges that best suit their needs and concerns, and for which they want to develop and generate a solution. After choosing the challenge or challenges to be carried out, the company creates a multidisciplinary team (maximum two teams from the same company to tackle different challenges) consisting of 4 to 6 members with different academic backgrounds, experience and posts within the company.

Once the teams are created, a mentor specialized in the chosen challenge is assigned to each team to accompany and support them throughout the process. The involvement of all team members and the company itself during the program is crucial to ensure that the project objectives can be achieved during the stipulated number of working hours. FIT Canarias also provides training and consulting support to help participants achieve positive results. Once projects have been developed, their results are presented and awarded with prizes and recognitions. FIT Canarias guarantees the subsequent follow-up of the projects, verifying and certifying that they have been implemented correctly and satisfactorily (FIT Canarias, 2017).

Unlike other models, IntraTeam encourages internal innovation by providing external training necessary to apply innovative concepts in particular projects and advice from specialized mentors. Its objective is to generate innovative projects within the company with the collaboration of its own employees, to identify internal talent and generate a culture of innovation. Through these actions, it is also possible to retain employees, who feel more involved and an important part of the company.
Enrique Padrón is the Manager of FIT Canarias and responsible for the development of the project. He was interviewed about the application of open innovation in promoting innovative projects. In his opinion, it is necessary to eliminate obstacles to collaboration and start fostering creative skills from childhood by not punishing mistakes or failures. He regards the dynamics of open innovation as necessary, especially in projects promoted by public entities. IntraTeam, together with other FIT Canarias projects, try to facilitate the creation of projects in companies that do not have the means to do it on their own. Four projects developed in the 2018 edition were implemented by participating companies.

4.3. Mentor Day

Mentor Day is the first private and independent accelerator in Spain, with more than 25 years of experience. This non-profit organization is made up of around 350 volunteer entrepreneurs and professionals. Its objective is to encourage and support entrepreneurs to develop and implement their projects and companies. The main collaborator of Mentor Day is Dyrecto Consultores, which is involved in the process as part of its Corporate Social Responsibility project.

Mentor Day has been used to develop 43 vertical acceleration programs organized in Tenerife. In total, 415 new companies across 17 countries and more than 2,500 entrepreneurs have received professional advice.

The organizers of Mentor Day have numerous advisory and acceleration programs for entrepreneurs and companies involving a number of public and private partners. Its programs include Soft Landing, which aims to support the internationalization of companies and Mentor Acelera Week (MAW), with the goal of supporting entrepreneurs, using consolidated open innovation techniques.

Mentor Acelera Week (MAW) – Mentor Day

The MAW event is held periodically and focuses on different sectors of activity. The event is co-organized by Mentor Day and another entity specializing in a given area (board of trustees, company organization, clusters, etc.), who propose challenges to be solved by participating companies. Various public bodies and large companies co-sponsor and co-organize the conference and provide funding to entrepreneurs through Mentor Day.

---

13 https://mentorday.es/
14 Dyrecto consultores is a consultancy specialized in financial advice to Spanish and foreign companies, leaders in the tourism sector https://www.dyrecto.es/
The MAW lasts 5 days, which is a similar length of time to that used in models developed by Google, Empretec, Seedrocket, etc. As already pointed out, the time constraint motivates participants to deliver results that can be validated in a short period of time.

Under the MAW program entrepreneurs can receive at least 60 hours of free, personalized expert advice and are expected to contribute 180 hours of personal participation in the program, which consists of four phases:

1. Preparation: an application from entrepreneurs interested in the project, which describes the project to be developed/accelerated.
2. Selection: Mentor Day selects the most interesting projects to participate in the MAW acceleration week after studying the submitted proposals.
3. Acceleration: the projects are developed and polished over 5 days.
4. Dissemination: Mentor Day launches a communication campaign in various media to advertise the projects, startups and participating companies.

MAW provides a meeting point for entrepreneurs, which facilitates the exchange of new ideas from young startups and creates opportunities to tap the strength of mature companies. Participants can take part in Lean Startup training, Youth Business Spain (YBS) mentoring program or complete their Business Canvas\(^{15}\), which can help them to generate innovation and implement their projects.

It is worth pointing out that program outcomes are monitored over a longer period by follow-up visits/subsequent accompaniment by the mentor associated with the project team.

During an interview, Mentor Day CEO Jaime Cavero commented on the application of the open innovation method: „a company can innovate on its own up to a specific point, but there are always external agents that can complete and strengthen internal innovation“. The results of his model are very positive: more than 55 programs developed, 510 companies accelerated with the designed method, 634 jobs created and more than 3000 entrepreneurs from 17 countries receiving support during Mentor Day.

### 4.4. DEMOLA Canarias

DEMOLA is an international open innovation platform where students and leading brands meet to tackle challenges. Its model, of Finnish origin, is endorsed by more than 50 participating universities, 750,000 students, world’s leading companies operating in 17 countries since 2008 (DEMOLA, 2019).

---

\(^{15}\) The Business Model Canvas is a strategic management template used for developing new business models and documenting existing ones.
DEMOLA began its activity in the Canary Islands in 2015. Since then, more than 500 students have participated and developed solutions to over 100 challenges for 85 companies and entities, with a validation rate\(^\text{16}\) of 67%. DEMOLA Canarias is funded by the Canary Islands Agency for Research, Innovation and Information Society (ACIIISI) and is managed by the Technological Institute of the Canary Islands (ITC) (Demola Canarias 2019 – RIS3 de Canarias, 2019).

Its method consists in posing challenges (problems) detected by participating companies and (public / private) entities from various sectors, for which real solutions are to be developed. The challenges are presented to a multidisciplinary group of university students who work with the company to develop a solution that satisfies its needs and can be implemented in the company’s regular operation.

Unlike previous models and programs, DEMOLA takes time to develop the project for an average of 2-3 months. During this period, the team of students keeps in close touch with the company to establish the key assumptions of the project and to get a deep understanding of its operation and project objectives. During this time project participants can benefit from mentoring offered by the ITC by so-called facilitators. The project team is provided with tools and innovation methods such as Design Thinking, Canvas Model, User Experience, etc. In addition, workshops are held with the company’s representatives to validate and advance the project. Finally, the solutions are presented to third parties for evaluation and, ultimately, to the company, which decides whether or not to acquire the solution (which is owned by the student team) to be implemented.

The Demola program offers several advantages:

1. It enables companies to access a network of new talent and provides them with an opportunity to meet and recruit future employees.

2. At the end of the project the participating company can decide whether or not to license or acquire the rights from the student team if the results prove useful and valuable.

3. The method has been tested in numerous editions and proved capable of being adapted to different business contexts. All processes and procedures are clearly defined and supervised by experienced facilitators.

4. Students have the opportunity to establish new contacts, learn innovative methods for project creation, acquire new knowledge and the ability to manage teamwork.

\(^{16}\) The intellectual and industrial property of the product / service developed belongs to the student team. After the development of the Demola program, the team presents the project to the associated company. If the project is found to be valid and meets expectations, it can be acquired and developed further, in a more formal manner under a contract. The validation percentage is the number of companies that have acquired solutions developed by participating teams.
In conclusion, the method is innovative because of its structure and the collaborative approach (university community + company). So far, results have been positive and many companies have joined to test the model (some repeaters in various editions). The number of participating companies from the tourism sector has also been growing. The last edition of the Demola program took place in December 2020.

Miguel Afonso was responsible for the Demola program in two editions analyzed in this study (2017/2018). Like other interviewees, he firmly believes in the advantages of applying the open innovation method, which are demonstrated by 105 challenges completed, with 92 participating entities and 525 students. Companies believe that Demola can create an innovative project, which they can then develop by dedicating their internal resources. Companies that are unable to innovate on their own, turn to this program as a form of outsourcing.

4.5. Hack for Good – Telefónica Chair Network

Hack For Good Canarias by the Telefónica Chair Network, co-organized by the University of Las Palmas de Gran Canaria, is a social event where challenges are proposed by groups or non-governmental organizations, companies and individuals in the field of social innovation\(^{17}\). A detailed description of the hackathon can be found in a paper delivered during the III International Congress on Learning, Innovation and Competitiveness (Suárez et al., 2015).

Although the event has a social objective, some tourism companies have been involved in proposing and launching challenges connected with their own operation (projects to reduce environmental impact, the amount of generated waste, develop approaches to clients with disabilities, etc.). During the event multidisciplinary teams try to develop solutions to proposed challenges posed using design thinking and project-based learning. Participating teams can rely on the assistance provided by university mentors/teachers. Hack for Good is open to anyone regardless of their level of training, age, employment situation, etc. and is conceived as a perfect setting for generating open innovation in a disruptive environment, where participants can work together towards a social good.

Telefónica provides a common platform and sufficient resources to maintain the technical equipment during the event at the Hack for Good headquarters throughout Spain. The work of the teams is rewarded with prizes in cash and in kind (training courses, project consultancy, etc.) and has the support of volunteers from Fundación Telefónica and Fundación Hazloposible to facilitate a correct

\(^{17}\) https://hackforgood.net/
development of the final project in all the cities. In addition, the implementation of winning solutions is also supported after the event through the Open Future program. With Open Future, Telefónica tries to ensure the projects’ continuity by providing participants with training and mentoring as well as offering access to additional development funding.

José Pablo Suárez was head of the Telefónica-ULPGC Chair during three editions of Hack for Good analyzed in the study (2017-2019). In the interview, he emphasized the current trend towards Open Everything, which has resulted in the creation of multiple portals and programs that promote collaboration as a social and business advantage. For him, open innovation methods are an example of this trend, which is fuelled by social motivation (the main focus of Hack for Good) to develop beneficial projects.

5. Conclusions

The cases described above indicate that the open innovation model in tourism companies generates competitive advantages at a general level. It also encourages the creation of an innovative culture by involving stakeholders from within and outside the company who collaborate to develop new solutions for the business. All the managers interviewed agree that it is necessary to continue relying on open innovation as a means to create innovative and useful projects aimed at pursuing a social good, reducing costs, increasing economic benefits or creating new companies that enrich the business environment of the Canary Islands. Observed at close quarters, each of the events was characterized by an atmosphere of cooperation and co-creation, which strengthened the sense of team spirit among participants and generated a feeling of appreciation for the efforts undertaken by participating companies.

The five cases confirm the hypotheses formulated at the beginning, opening the way for future research aimed at monitoring whether and how these projects have been implemented in the respective companies.

The following conclusions can be drawn from the analysis of the cases described above:

1. The OI model favors integration and multidisciplinary cooperation, generating synergies that help to generate better ideas.

2. The involvement of different partners in the creation of products/processes/services increases the likelihood of successful commercialization of developed solutions.

https://www.openfuture.org
3. Open innovation methods are effective in identifying talented specialists in various areas, inside and outside the company.

4. The company’s management has to be committed to the innovative process to ensure its success and avoid resistance to change.

5. To ensure continuous and structured management of the open innovation model, the company has to follow a clearly defined schedule, including short, medium and long term objectives.

6. Collaboration with public and private organizations is necessary to obtain positive results.

Based on their findings, the authors argue that open innovation is an ideal method for promoting collaborative environments for different stakeholders involved in the process and can generate benefits for all parts. Generally, the open innovation experience has been positive for the companies analyzed in this article, and helped them to position themselves as innovators in their sector. However, a fundamental change in tourism will only come when tourism companies fully embrace open innovation methods in their daily activities instead of occasionally participating in one-off events.

References


Applications of open innovation models in the tourist sector: Canary Islands experiences


Tourism. Open Innovation, Crowdsourcing and Co-Creation Challenging the Tourism Industry (pp. 137-152). Springer. https://doi.org/10.1007/978-3-642-54089-9_10


Appendix

Interview

Presentation of the researcher and the study hypothesis: organizations are increasingly relying on innovation management and the use of open innovation methods. The interview is intended to demonstrate how appropriate management and exploitation of Open Innovation in the organization can help to improve user experience and the company’s innovation culture, and ultimately, generate competitive advantages.

1. To start with, how would you define innovation? Is it just something purely technological?
2. In my doctoral thesis, I consider the development of open innovation essential. I define open innovation as a creative and co-creative process involving several partners. Do you think the hotel industry should collaborate with clients or suppliers in the development of new projects or innovative products?
3. Is there or has there been a project of this type in (organization)?
4. When we talk about innovation, it is generally understood as a non-channeled process that arises spontaneously, however, in my opinion it could be guided by a framework / reference model that helps hotel companies to adopt or create innovation internally. Do you consider it possible or necessary to model innovation in companies?
5. Surely you know the UNE 166002 standard: R & D & I Management: R & D & I Management System Requirements as a framework that aims to standardize innovation processes in companies. Does putting walls on innovation hinder or limit innovation?
6. To what extent can the organizational culture be adapted to derive benefits from proposed innovations?
7. In general, do you regard the commitment to innovation management as a source of real competitive advantage or only as a means to promote the company’s brand image sporadically?

8. To conclude, what recommendations would you make to the hotel industry regarding open innovation management?

---

Zastosowania modeli otwartej innowacji w sektorze turystycznym. Doświadczenia z Wysp Kanaryjskich

**Streszczenie:** Celem artykułu jest przedstawienie niektórych zastosowań metod otwartej innowacji na Wyspach Kanaryjskich. Autorzy postanowili zweryfikować hipotezę, że otwarte metody innowacji mogą sprzyjać wzrostowi kultury innowacyjnej w firmach uczestniczących w programach innowacyjnych oraz generować nowe pomysły i projekty. Badanie opiera się na danych jakościowych zebranych w drodze obserwacji i podczas wywiadów z osobami odpowiedzialnymi za organizację programów otwartej innowacji na Wyspach Kanaryjskich, ściśle związanych z branżą turystyczną. Autorzy wskazują korzyści płynące z nowych pomysłów i projektów innowacyjnych, które pomagają uzyskiwać przewagi konkurencyjne. Na podstawie analizowanych przypadków dochodzą do wniosku, że zastosowanie metod otwartej innowacji pobudziło kulturę innowacyjną w firmach turystycznych, które były w stanie opracować innowacyjne projekty. Różne formy otwartej innowacji można zatem uznać za skuteczną metodę tworzenia środowiska współpracy między różnymi podmiotami, która może przynosić korzyści wszystkim zaangażowanym stronom.

**Słowa kluczowe:** otwarta innowacja, zarządzanie innowacjami, turystyka, hotelarstwo

---

Copyright and license: This article is published under the terms of the Creative Commons Attribution – NoDerivatives 4.0 International (CC BY-ND 4.0) License, https://creativecommons.org/licenses/by-nd/4.0/