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A creative way for the tourism industry to approach innovation and
sustainability:
Hack For Travel

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ANNO ACCADEMICO 2020/2021

Vorrei dedicare questo spazio alle persone che hanno contribuito, con il loro instancabile supporto, alla realizzazione del mio elaborato.

In primis, un ringraziamento speciale al mio relatore Stefano Franco, per i suoi indispensabili consigli e per le conoscenze che mi ha trasmesso durante tutto il percorso di stesura dell'elaborato.

Un grazie infinto alla mia famiglia. Ai miei genitori, esempi di vita, che hanno creduto in me in ogni momento e che mi hanno insegnato ad essere tenace sempre. Ai miei fratelli, Riccardo e Ginevra, senza dei quali non potrei immaginare la mia vita.

A Cristina, che mi supporta in ogni momento da sempre.

Grazie ad Alice, per esserci sempre stata e per aver condiviso con me gioie e fatiche di questi anni.

Grazie anche a chi oggi non è più parte della mia quotidianità, ma che ha contribuito a rendermi la persona che sono oggi, fiera di me stessa.

Grazie infinite di cuore a tutti voi.

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Introduction

Tourism has undergone continuous changes throughout history, dictated by the events of the moment and tourists' needs and preferences. The phenomenon's origins can be traced back to the Grand Tour, referring to the practice of the scions of bourgeois families to travel for educational purposes in Europe between the XVII-XVIII century. Italy discovered its vocation for tourism only from the beginning of the 20th century, when it began to value its artistic-cultural and natural and environmental richness. Close to this period, specifically in 1919, was born ENIT, Italian National Tourism Entity. From the middle of the 20th century, some private Italian companies began to establish, first among all Alpi, founded in 1947, which then took the name of Alpitour. In 1970 Italy was the first country in the world for tourists, indeed between 1970 and 1975, presences increased from approximately 132 million tourists to 292 million (UNWTO), thanks mainly to foreigners. In the following decades, tourism assumed the characteristics of a mass phenomenon, becoming an indispensable commodity experienced globally and by a broader range of subjects. Finally, in the first years of the 21st century, self-organized experiential tourism takes roots, influenced by the development of the internet and growing attention dedicated to sustainability. In particular, this term refers to tourism whose goal is to minimize the physical and social impact on the territory and build sensitivity and respect for the environment and cultures. Tourism that at the same time provides financial benefits to local communities and businesses operators. Contextually to sustainable tourism expansion, the industry is strongly influenced by the Information & Communication and technology (ICT) sector development.

ICT development has impacted tourism in various ways: in the registration process, property management, and promoting the destination. Thanks to the Internet, tourists can now book their trips directly without interacting with the front desk, resulting in reduced costs for operators and more efficient customer bookings. ICT has also allowed tour operators to manage their business more efficiently and make their facilities more attractive through the world wide web.

In 2020, following the Covid-19 pandemic, tourism experienced a profound shock. In Italy, during March-May 2020, the restrictions applied brought a drop in presences of 91%, with the loss of almost 74 million customers (Camera dei Deputati, 2021). In economic terms, the crisis has led to a drop of more than 70 billion euros

in tourism spending (ENIT, 2020). In fact, after the emergency, Italians have rediscovered themselves to be more attentive to the environment. As proof of this thesis, a survey states that on a sample of 2000 citizens and 263 companies, 68.3% of respondents affirmed they changed their behavior concerning the environment (Euromedia Research, 2020). *'How Covid disrupted our lives and habits has led to a collective reflection on the fragility of man and the planet and the importance of our choices,'* stressed the director of Euromedia Research (Ghisleri, A., 2020). Following this consideration, tourist operators are now rethinking their activities, increasing the attention to sustainability. As previously anticipated, in the last years, the term 'sustainable tourism' is recurrent, which the World Tourism Organization defines as that which *'meets the needs of travelers and host regions while protecting and improving opportunities for the future'* (WTO, 2005). Therefore, adopting a strategy that includes the care of these aspects becomes a fundamental pillar for the pursuit of economic objectives. That refers to environmental and economic sustainability and social sustainability, i.e., supporting a community, which is the tourism one. In this context characterized by high uncertainty, one possible solution is to leverage the social pillar, strengthening the various operators' ties. That was the path undertaken at the end of April 2020 by the Italian tourism sector, which organized Hack for Travel. That was an online hackathon that involved the entire community in reaction to the crisis. Hackathons are events that started to take place in America in the late 20th century. They consist of short conventions that promote innovation through brainstorming.

Based on the above considerations, how can these digital events - i.e., hackathons - be used to stimulate sustainable and innovative tourism development?

It is precisely by seeking the answer to this question that the dissertation is elaborated. In the first chapter, the thesis deepens and explains the phenomena of digitalization and how it has impacted the tourism sector; and sustainability, with a particular focus on stakeholder engagement as a tool to leverage sustainable development. The second chapter instead explains what hackathons are and the motivations that lead companies to organize them. In the same chapter, hackathons are also analyzed concerning the theme of sustainability. Finally, the third chapter, the heart of the elaboration, aims to analyze the main implications the event generated concerning sustainable development and innovation for the tourism sector. The latter, in particular, has been studied with a qualitative methodological analysis aimed at

extrapolating the positive effects that the event had, particularly concerning the process of stakeholder engagement. Specifically, between February and March 2021, a series of interviews were conducted with the main actors involved in the event. The recurring themes emerging from the interviews were then categorized and explained in the third chapter. Notably, the analysis opens with a clear definition of the leading operators involved, including ENIT and Alpitour. Successively, it describes the phases in which the event devolved and the resources and skills needed for the organization. Next, the study reveals the peculiarity of this event, which was held entirely online, highlighting its main differences from physical events. Finally, the second part of the chapter enunciates the value that Hack for Travel has brought to the tourism industry concerning the themes mentioned above. The main focus of the analysis is the result the event brought in terms of stakeholder engagement. This aspect is intrinsic to the nature of the event, whose aim was to gather the tourism community to find solutions for restarting and rethink the sector.

CHAPTER I

INNOVATION AND SUSTAINABILITY IN THE TOURISM INDUSTRY

1.1. Innovation and digitalization

The term 'innovation' refers to the application dimension of an invention or discovery. The term can refer to both process and product, and always to an idea that anticipates them and is considered realized when it guarantees more significant results or benefits than the phase that preceded it.

The economist Schumpeter (1883-1950) considered innovation as the primary determinant of industrial change and economic development (Zanini, A., 2013). He distinguished between 'invention' and 'innovation,' defining the former as acquiring scientific and technological knowledge that result is directly applied to production. At the same time, the latter referred, in his view, to "doing something new." According to the economist, innovation is achieved by introducing new goods and production methods and creating new organizational forms. The same goal is also performed with the opening of new markets and the conquest of new sources of supply (in this sense, according to Schumpeter, it is possible to innovate even without making an invention).

Therefore, it was not enough to have had an innovative idea, as companies would only guarantee innovation if they were able to achieve combinations of different types of knowledge, skills, competencies, and resources.

The innovation boom has undoubtedly accelerated the growth of the leading countries' economies. This process has found the way paved thanks to the competition phenomenon, since innovation, if well implemented and exploited, allows an increase in profits. They are simultaneously reducing costs, determining the birth of new consumer niches and, therefore, new spaces in the market where to insert oneself and sell one's product. Moreover, innovation facilitates the business expansion, allowing to turn the offer to an international market and make this process one of the main components of the business income today.

An important form of innovation is represented by digitalization, which has brought significant changes affecting operational and production methods (Nonaka, I., Takeuchi, H., 2005). The main contribution has been the reduction of paper and the possibility of storing documents stably in the memory of computers. In addition,

digitization has allowed real-time communication with distant realities, data transfer, their use in versatile forms, and their use processing.

The importance of digitization is evident in the practice of many companies by introducing a figure dedicated explicitly to its implementation: The Innovation Manager, who attracts market innovations to the company and implements and uses them.

Today, innovation tends to be heavily based on digitalization. In particular, the latter has been a fundamental support for service companies such as credit companies, insurance companies, and even those operating in the tourism sector.

The latter provides services that are carried out in different countries or by various companies and often presuppose a reservation or payment, so the need for coordination, guaranteed by digital tools, appears indispensable to ensure efficiency. Through digital devices it is, in fact, possible to book, cancel, pay, confirm, leave reviews, receive vouchers, etc., simplifying the complex system that supports the tourist. Digitalization is configured today as indispensable and instrumental to the entire development of the sector, as will be highlighted in the following pages.

1.1.1. How digitalization affects the tourism industry's growth

As mentioned above, digitalization is a prerequisite for any initiative and constitutes an endowment for all businesses operating in a competitive environment. This phenomenon has affected all sectors, including tourism, whose structure is undergoing tremendous and rapid change. Mass, standard, and complex tourism is being replaced by more personalized and formatted to meet the needs of each particular consumer.

In this sector, in fact, through the introduction of modern information and communication technologies, it is becoming possible for operators to offer tourists increasingly personalized products based on individual needs. However, digitalization entails significant changes in working, which in turn entails a risk that not all tour operators are willing to take. This because not all players in the sector are up to speed with what is now called "digital tourism" (Khurramov, O. K., 2020). This term refers to the 21st-century tourism industry, which took an entirely new and utterly innovative direction, changing and improving the creation of the tourism product. The keyword when talking about digitalization is "Internet," which has made the business of the tourism industry more flexible, consistent with the realities of our

time, and more competitive in the development of the "digital world." Flexible in that, as web browsing has become increasingly accessible to everyone, it is now possible for tour operators to acquire detailed information on the client even before they arrived at the facility, through online questionnaires, for example. In this way, hosts can personalize the guest's stays according to their preferences, making their experience unique and meaningful. In this way, the experience becomes consistent with reality since a large part of the tourism demand is represented by the new generations, which are the Millennials born between 1980 and 1995, and Generation Z, born between 1996-2010. The formers grew up in a context in which digitization was already developing and expected tour operators a service suited to their "digital habits." Finally, competitive in the development of the digital world since, as previously stated, competition is at the basis of the innovation process; this means that those who do not keep up with digitization will be swept away by competitors who have instead been able to innovate.

Digitalization, moreover, allows the implementation of competitive strategies smoothly; due to these dynamics, a competitor analysis has become an important activity to coordinate in the physical market and correctly choose the best digital marketing, which is increasingly developed. Modern advances in telecommunications and electronic marketing create fundamentally new opportunities for the tourism business, significantly expanding its boundaries and influencing its models.

Many travel agencies, traditionally involved in the organization of standardized mass tourism products, are now being forced to reorient themselves towards customer needs and actively seek to introduce information technology into their work.

In the tourism industry, digitization has affected all phases of operations, allowing for smoother management.

In particular, tools such as 'digital platforms' have constituted necessary support in the entire supply chain involving incoming activities (i.e., those in the places of arrival) and outgoing activities (i.e., activities implemented to reach the destination sites).

Therefore, digitalization presides overall 'players' activities,' from retailers (restaurateurs, hoteliers, taxi drivers, etc.) to tour operators, travel agencies, and the tourists themselves. Electronic reservation services systematize, store, and provide information to tour operators and private consumers. The opportunity was created to

compare the cost of a package of services, independently plan a personalized tour, and build their itinerary even before reaching the destination. In addition, it is now possible to make 'reservations' and 'payments' through unique platforms that have the advantage of operating in real-time and insecurity. Still, the latest innovations see the use of even more complex digital tools.

Among these, the technology that has most recently revolutionized the transaction market is undoubtedly the Blockchain. It was made possible to manage a complex of information referable to travelers with different destinations (Colombo, E., 2020).

A Blockchain is a system that publicly stores all transactions produced by a particular network, allowing information to be kept, not lost, changed, or encrypted. The records are encrypted and grouped into blocks that together form a chain. This technology provides transparency, security, and immutability of data, favoring the decentralization of control. It can now be distributed on the different nodes of the chain, making it immune to external attacks.

Blockchain is a young technology with the potential to disrupt the way business is traditionally done; in tourism, this can find a suitable application thanks to its guarantees.

There are several areas of application of this technology in the world of travel. First and foremost, the Blockchain enables easy, secure, and traceable payments through the use of one of its applications: cryptocurrencies (e.g., bitcoin). These are virtual currencies exchanged similarly to traditional currency but whose transactions are exempt from public scrutiny. These transactions are recorded in the blockchain system completely transparently; moreover, since there are no intermediaries in the trade, inappropriate interventions or possible delays in payments will be avoided. A tourist who intends to travel can pay with bitcoin and maintain his privacy. A second application of the Blockchain is smart contracts, contracts managed through this technology, which reduce costs and process time of negotiations, providing greater security than traditional ones (Di Sabato, R., 2017).

The advantage for tourism players who use this type of contract is that it minimizes the risk of non-performance. The conclusion of the agreement is not based on trust in the counterparty, being the result of an automated mechanism that independently goes to the end when there are all the conditions (Casey, M., Vigna, P., 2018).

As a result, the 'smart' contracts mechanism provides greater certainty and security regarding the negotiations between different entrepreneurs (e.g., between travel agents and tourists) (Casey, M., Vigna, P., 2018).

In the tourism field, the introduction of Blockchain can be an essential viaticum for the development of the entire sector and its security. The destination hoteliers can visualize a trip organized and confirmed through a smart contract, and the occurred payment. The latter can intervene to enter the occurred balance (Casey, M., Vigna, P., 2018).

For example, a travel agency that allows flight bookings from its site will guarantee much more secure operations by being divided into micro-operations, each managed by a different block in the chain. In this way, a threat from hackers will not be satisfied as it would be necessary to breach all the blocks, which is too complex.

Every operation can be carried out without having to resort to currency exchanges, so making payments using the Blockchain can be a good advantage for transactions that the tour operator makes abroad, avoiding all the inconveniences that this entails.

A further advantage concerns the reviews left by other travelers, which are not always true and accurate. With the Blockchain, all the information that appears in the network is public; the origin is known, reliable, and secure, ensuring greater transparency and increasing trust in tourists (Colombo, E., 2020).

The Blockchain could also be used for tracking luggage that can be tracked directly by accessing the platform once left at the check-in counter.

Even the loyalty cards, currently used in the optics of following loyalty programs for customers to transform them into regular customers, could be followed directly by customers in the optics of verifying the points achieved and exchanging them in cryptocurrency (Colombo, E., 2020).

Examples of Blockchain currently being used in the tourism industry include Winding Tree, Showcard, and Sita and Trippki.

Winding Tree is a company that uses a blockchain platform to book travel in a decentralized manner, reducing the price by up to 20%.

ShoCard and SITA are two companies that employ the platform to identify people in hotels or at airport checkpoints.

Trippki allows customers and businesses in the tourism industry to connect directly. Customers are assigned some tokens (these are devices with passwords and

give credit) to stay in a specific hotel registered in the Blockchain without expiration and therefore are redeemable at any time.

While Blockchain is a handy tool for agents and tour operators, from the tourist's point of view, a significant contribution provided by digitization is represented by tourism apps that have facilitated the traveler by directing him according to his preferences. Below is a brief analysis of these tools.

1.1.2. Tourism apps

The development of virtual tourism can be considered a natural process of innovation. The creation of this niche in the tourism market as a consequence of the computer communications' progress, under whose influence the world's perception also effectively changes. At the same time, the emergence of new needs is occurring. A unique behavior distinguishes the modern tourist: the desire to get a convenient and guided trip - "digital tourism" (Khurramov, O.K., 2020). Tourism is adapting to this need integrating various technologies, including the Blockchain and its various applications, and developing apps to meet the tourists' needs. Observation of market dynamics shows that the launch of an app with tourism content is always preceded by a careful market analysis (Gulizia, S., 2012). Currently, there are many apps with this purpose, including those that offer services to tourists, such as, TripIt, an app that organizes a travel program by developing an actual itinerary. However, it has an evident criticality when user registration is too difficult, not facilitating access to the app by the less experienced.

AroundMe, on the other hand, is the travel app that, through geolocation activation, allows users to find any site in the surrounding areas. The graphical part of the app is bare, but it manages to provide detailed information, although it is constantly disturbed by advertisements at the top of the screen.

On the other hand, Maps.Me is an app that offers offline maps to the traveler without access to a connection. It is also intuitive and straightforward, and thanks to the offline arrangement, the app has the advantage of being able to be used without data consumption.

Sidekix is an app that makes personalized routes available to the navigator. From a design point of view, exceptional attention to detail attracts the user and facilitates his search. The app provides information about the monuments that you will encounter along your itinerary.

Finally, Google Lens is an app that is activated by taking a photograph of a monument, restaurant, or museum with your smartphone. In a few moments, simply by processing the image provided, you receive all the information directly on your device. The app is simple to use as it has few but essential and satisfying features.

The apps described show efficient support for the traveler, although there are still various critical points. All of the apps are easy to use and fairly comprehensive in their information. Still, a significant limitation is that they do not have an alternative function to audio appropriate to the needs of people with disabilities, including those with deafness (Gulizia, S., 2012).

In addition, there is a specific criticality inherent in the limitation of keywords intended to address the user. Finally, each of the analyzed apps presents a peculiarity that distinguishes it, making it unique; however, it lacks a complete application, integrating the various aspects present in those mentioned, facilitating the tourist from the first click.

In the tourism field, the use of images, one of the main innovations of digitalization, takes on particular importance. For this reason, both the sites of operators and the apps devote considerable care to this aspect.

UX design is an acronym for User Experience design (UXD). It represents the set of activities necessary to outline a graphic design and functionality of an app that is as performing as possible. It is based on the user's browsing experience realized by the set of processes aimed at increasing the user's satisfaction, feelings, and memories.

The term clarifies impact determined by the set of interactions between user and brand and was coined in the late '90s by Don Norman. The former defined 'User experience' as:

"All aspects of the interaction between the end-user and the company, its services, and its products."

When building a site or app aimed at tourist users, UXD aims to juxtapose shapes and colors in a context where compelling and engaging content is encountered, inducing a call to action, i.e., a purposeful interaction in a fluid, easy-to-understand manner that enables querying and booking.

The awareness inspires that it is not only the content that determines the outcomes of browsing experiences but also the way in which it is delivered.

Companies operating in the tourism sector, more than others, owe their success to the sensations and emotions they receive already in the research phase of their products and/or services.

The UX designer does not invent the needs of the tourist. Still, he gets them from surveys and interviews to find a solution, avoiding, in this way, to develop the functions of a product according to his intuition, but based on data, he has (Gulizia, S., 2012).

The UX Designer should be distinguished from the Graphic Designer because it performs a less technical and more user-focused function.

The User Interface design creates the interface through which the user can enjoy the contents or services such as websites and apps; therefore, the visual and interactive part of a website or a tourist app.

The UI designer is also a storyteller, acting as a narrator of the brand. In this perspective, using the logo, fonts, etc., often creates a style guide containing all the crucial aspects of the brand identity. In tourism, the UI designer has the task of making the user dream, touching his curiosity, and urging him to book.

Continuing the description of the digital tools' impact on the tourism sector, its use by tourism management intent on promoting the service/product through digital branding deserves special attention.

1.1.3. Digital branding in the tourism sector

Digital branding concerns using web tools to identify the correct positioning of a brand in the digital universe.

The digital popularity of a brand begins with a story. The enthusiasm that consumers show concerning companies that boast an emotionally rich past and can convey credibility and digital branding build engaging content that aims to carve out a good reputation of principals and excites (potential) consumers (Ministry of Economy and Finance, 2016). It spread due to the development of the digital economy, which was based on the enrichment web's functions.

An essential use of the web by tourism operators lies in using Big data, i.e., the considerable amount of information that can be drawn from browsing activities.

Among all the advantages, the collection of "data" represents an activity of inestimable value for tourism businesses by offering the possibility to draw the tastes and preferences of travelers who leave traces of their actions.

By tracing the preferences of potential customers, companies in the tourism sector can make personalized offers. Therefore, the data, or rather the traces left during voyages, are used by companies, monitored, and analyzed to improve or modify their business.

But what does it mean to monitor data?

If the objective of those who deal with marketing is, first and foremost, to communicate, then listening to the needs of customers, which is achieved today through the web, becomes a fundamental function. In this new vision, the customer-tourist is the goal and the principle that requires reading and listening to the needs, understanding the trends or complaints expressed (Rullani, E., 2004).

Today, marketing is increasingly digital and is based on integration, personalization, multichannel, relational approach, and monitorability.

Integration refers to traditional and digital marketing (digital marketing should not be considered as overcoming the traditional one, being a complement) (Rullani, E., 2004). Personalization is also a consequence of the digital revolution; thanks to modern technologies, companies, especially tourism ones, are being able to offer their customers individual and unique experiences. Standardized products and mass communication would not respond to the modern need of the customer to be considered in his identity and to realize, through travel, a personal experience (Rullani, E., 2004).

The modern tourist is proactive, is digital, and moves skillfully between online and offline channels. Digital occupies an increasingly important role. The traveler retains the atavistic need to receive a human touch in their relationships. Consequently, strategies must focus on multichannel, using every source web, social sites, apps, etc.

The tourism company must also adopt a relational perspective since its goal is to sell or persuade and establish a lasting relationship with the customer in the knowledge that the latter, through reviews, holds power to disrupt the company's business.

The more satisfied a customer is, the more value he/she will generate firstly because he/she might repeat the purchase, secondly because he/she might decide, spontaneously or not, to "defend" that product, that brand, or that organization from those who attack it in the communities.

For these reasons, in tourism, monitorability, a typical digital marketing activity, is an important step that allows to draw qualitative and quantitative information and intervene to avoid or contain dissatisfaction.

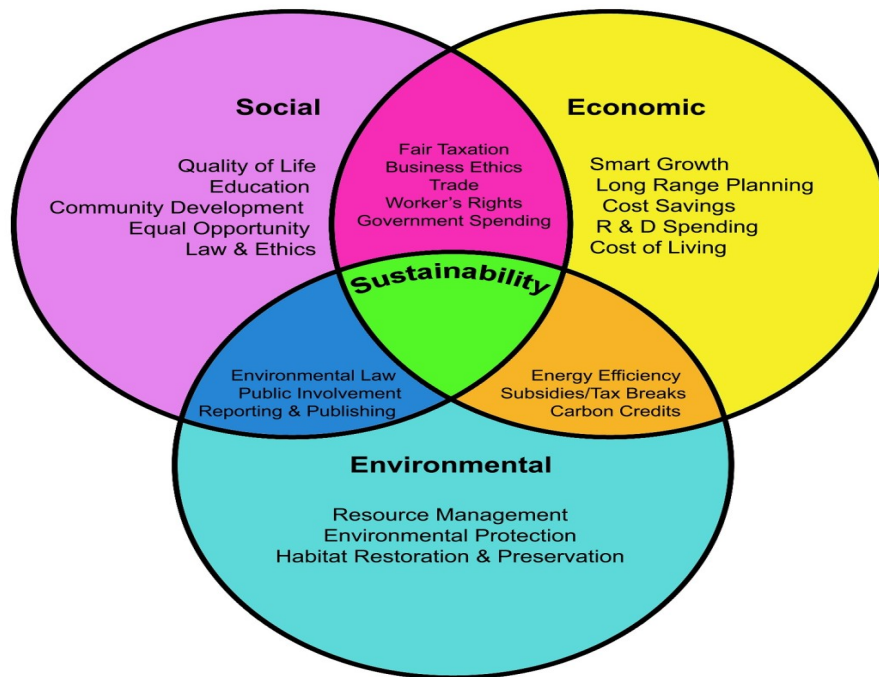
1.2. Sustainability: bottom-up approach

The ongoing digital revolution has impressive implications in the future, so much so that it is predicted that many 'low skilled' activities could be replaced by automation (Dipierri, C., 2019). Given the size of these impacts will have to be necessary, coordinated with the instances required by the sustainable development currently pursued by institutions. In this sense, digitalization must be included in the track of sustainable development, which represents a form of economic growth that is compatible with the need to safeguard the environment, the availability of resources for future generations, and social instances. Those who pursue sustainable development assume responsibility for the context in which they operate. They report the results in social budgets or sustainability reports. From this company's policies undertaken and their effects can be examined (the adoption of the so-called 'integrated budget' comes to combine the reporting of financial activities with that of non-financial actions (social budgets)] (Dipierri, C., 2019).

The concept of sustainability revolves around three components: social, economic, and environmental sustainability. The first refers to the preservation of 'quality of life, education, development, and equal opportunities, as well as legality and ethics, while economic development relates to growth, planning, efficiency, R&D, and cost of living. Finally, environmental sustainability is inherent to resource management, environmental protection, and care (Ostholtzoff, H., 2016). Sustainability is not presented in a compartmental, i.e., disjointed form. Still, it involves domains in their cross-cutting nature, and this is evident from the influence of some activities on a fair number of fields. For example, subsidies and taxes introduced from an environmental perspective and the pursuit of energy efficiency involve both instances of economic and environmental sustainability. Regulatory regulations relating to the environment, social policy, and the adoption of reports to showcase sustainability measures affect social and environmental aspects.

The following figure expresses the concepts set forth.

Fig.: 1.1.: Sustainability pillars



Source: Ostholt Hoff Hank., 4 Ways to Master the Art of Digital Branding. The Huffington Post. Retrieved 2016-03-12.

The area resulting from the intersection of the three components coincides, ideally, with the perfect meaning of sustainable development. Therefore, the intermediate regions can be an operational reference to reach the optimal dimension.

A particular aspect of the theme relating to 'sustainable development' is that relating to innovation through the creation of start-ups, which needs to develop and exploit the opportunities identified concerning sustainable development.

When a start-up is created, it is necessary to set up the project in a sustainable way already in the starting phase, identify any potential impact, and adopt the most suitable solutions (Dipierri, C., 2019).

The tourism sector is involved, like the others, in the preparation of measures to ensure compliance with the principles of sustainable development through the dissemination of digital tools. Many tourism start-ups, for example, have planned to associate the services offered with solutions suitable for making people choose, verify and judge all the aspects and behaviors that revolve around "green" tourism. These are innovative projects used firstly by hospitality industry operators whose intention is to take care of the aspects related to environmental impact even when traveling and secondly by those responsible for administering the territories to make tourist destinations "easy" to live sustainably and responsibly.

In general, a sustainable tourism service takes care to anticipate the potential impact in social, economic, and environmental terms, introducing valuable measures to prevent harmful effects. A mechanism able to provide the most appropriate solutions to solve these needs is the bottom-up one that, unlike the top-down model, aims to trace back the corporate organizational settings to achieve sustainability, starting from empirical evidence and analyzing previous experiences (Dipierri, C., 2019). Bottom-up analysis, moreover, focuses on knowledge of the area's social, environmental, and economic needs and is concerned with providing solutions to meet them. The generation of innovative ideas, according to this approach, must be consistent with these requirements and must be programmed to achieve this objective.

In tourism, examples of sustainability pursued according to the Bottom-up model are the proposals to the traveler of rentals that guarantee the lowest socio-environmental impact. Through his choice, the traveler often participates directly in the financing of initiatives promoted by local communities. Social projects receive funding, and the tourist acquires awareness of the area visited and its positive contribution, and the whole community benefits.

Concerning start-ups, some studies have focused on the indispensable aspects of sustainable entrepreneurship (Belz, F. M., Binder, J. K., 2017). The formers highlight that the quality of the initial idea assumes fundamental importance in achieving sustainability, as there may be changes in the programs in progress. Still, if the objectives are consistent with sustainable results, the effects of these changes do not tend to impact the results.

Other studies have highlighted the role of public support for research concerning the contribution of business activities to achieving sustainable development goals. Factually, such consent can contribute to the identification of methodologies to be adopted in implanting a sustainable enterprise (Belz, F. M.; Binder, J. K., 2017).

Several studies have shown that setting up a sustainable business requires a holistic understanding of the entrepreneurial process, i.e., understanding all the synergies that develop.

In this perspective, academics, policymakers, government, and private individuals involved should identify economic, social, and environmental influences of a company given the specific activity carried out and the context in which it operates (Renko, M., 2013). The problems encountered lie in the difficulty of integrating solutions suitable for various situations or methodologies used in a standardized

manner. Sustainability-based on the bottom-up criterion implies that all instances regarding sustainability are taken into account. Still, these are very different depending on the set of both entrepreneurial and contextual conditions (Renko, M., 2013).

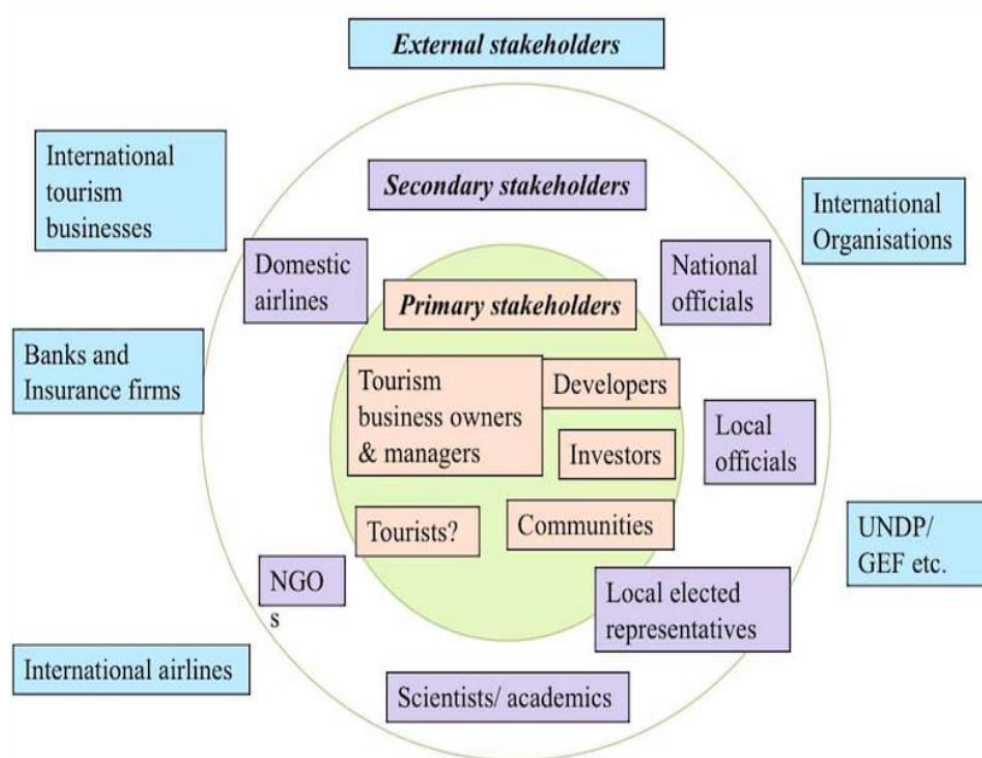
Finally, a further limitation of the bottom-up method lies in the observation that even the learning process must adapt to the various constraints described. All of this, concerning the tourism sector, refers to the need of setting up the activity to take note, from the start, of the criticalities of the territory in which one operates. Thus to assume the responsibility of interacting with the community to ensure low environmental impact and community growth concurrently.

In this context, in the tourism sector, like any other, it is always necessary to frame the stakeholders, i.e., those interested in the activity. Only in this way can the adoption of digital tools in the sector occur in respect of every instance that it involves.

1.3. Stakeholder Theory

The term Stakeholder refers to any group or individual that influences or is influenced by the achievement of an organization's goals (Freeman, R.E., McVea, J., 1984). The literature has often referred to primary and secondary stakeholders (Freeman, R.E., McVea J., 1984). Primary stakeholders represent a group that is essential for the business's survival and include customers, suppliers, workers, shareholders, investors, etc. Secondary stakeholders, on the other hand, are those who, although influencing or being influenced by the business' operations, do so only insofar as they are casually involved; in practice, they are not essential to the continuation of the company (Freeman, R.E., McVea, J., 1984). In tourism, the following figure identifies the primary and secondary stakeholders of the sector, including the external ones identified with the international operators.

Fig.:1.2.: Tourism, External, Primary and secondary stakeholders



Source: UWT0 (2017)

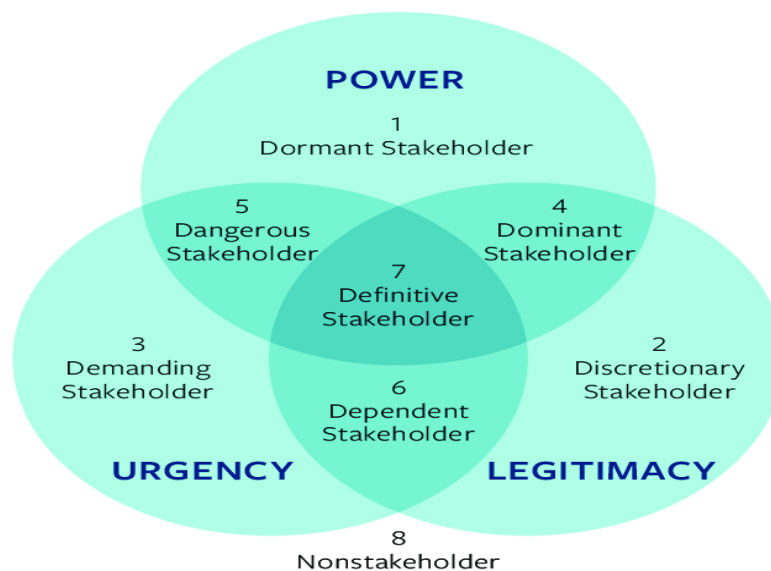
The primary stakeholders are the restaurants' clients, hotels, and other tourism-related businesses in the tourism industry. The primary stakeholders can influence the strategic choices of suppliers as they are linked to them by a contractual relationship. Secondary stakeholders play no less important and very influential roles. They are represented by those who exercise power over tourism marketing without directly linking to the business operating in the sector.

The stakeholders' theory outlines the specific stakeholders, the so-called normative theory of stakeholder identification. It examines the conditions to which these parties are subjected by the firm (the descriptive stakeholder theory). In the first 1990s, Freeman and Evan (1988) developed a 'normative theory' that explained that all those who have legitimate claims on the company are considered stakeholders. Subsequent studies have extended the content, considering that even 'potential' stakeholders must be considered part of the category of stakeholders since they are subjects whose involvement is only deferred (Clarkson, M. B. E., 1995).

Over the years, the stakeholders' theory has evolved from a pure "theory of business" to a research tradition that has addressed a complex phenomenon from various perspectives, distinguishing between voluntary and involuntary stakeholders. The former referred to the subjects who invested in human or financial capital, thus

having a risk in the enterprise, while the involuntary stakeholders are those who bear a risk simply "because of" the enterprise's activity (Clarkson, M. B. E., 1995). Beyond the classifications, it is the importance that stakeholders have within the company's policies that represents the true core of the theory concerning them. In this regard, it is worth noting the theory developed by Mitchell et al. (1997), which proposes a framework from which the "stakeholder salience" can be derived, an analysis that allows the areas of influence in which each stakeholder is located to emerge. In the following figure, there is such a representation.

Fig.: 1.3: Stakeholder salience

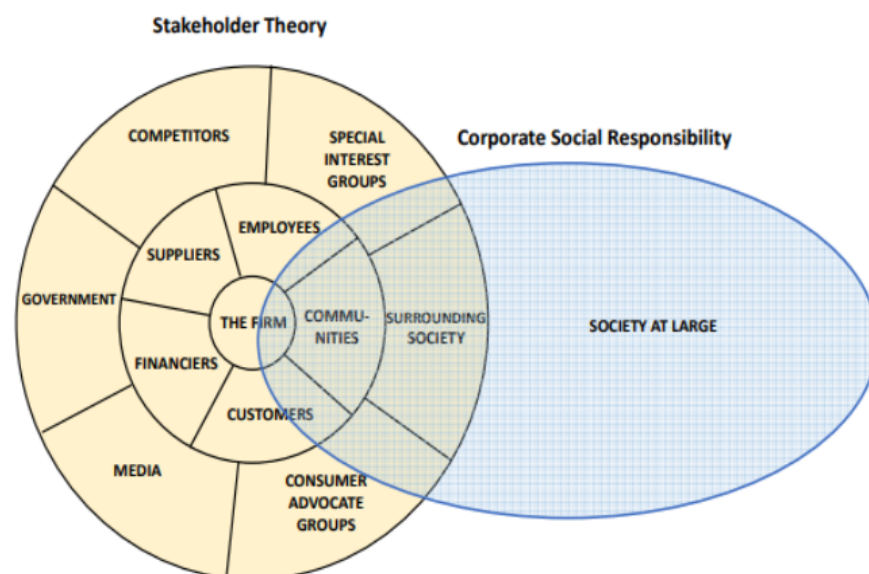


Source: Mitchell et al., 1997 in: Morri L. (2007), *Gli strumenti dell'etica, l'etica degli strumenti e la responsabilità sociale*, Sociologia del lavoro n. 106-107, Franco Angeli

The framework uses three attributes to identify the importance of individual stakeholders (Mitchell, R. K., Agle, B. R., Wood D.J., 1997). The first one is 'power' that refers to the ability of an individual to make his interests prevail over those of others. The second, 'Legitimacy,' recognizes that the interests of a stakeholder category are relevant and worthy of protection. The third, 'urgency', refers to the speed through which the company must respond to the specific requests of the various stakeholders. As represented in figure 1.3, basing on such attributes, different categories of stakeholders are distinguished, Dormant, Discretionary, and Demanding.

Those who possess at least two attributes are said to have "expectations," which is why the firm must pay more attention to them. Within them, there are three types of stakeholders: dominant, they are powerful and legitimate and attract much attention from the project manager because their influence on the project is certain; dangerous, they have power and urgency but no legitimacy, so they may resort to coercive means to assert their claims; dependent: they depend on the other project stakeholders they do not have power but have legitimate and urgent expectations. Finally, the "definers" are the stakeholders who hold all three attributes (Clarkson, M. B. E., 1995). This framework has the firm as its central node; in fact, it aims to provide it with support in making decisions about these stakeholders. Stakeholders' theory has also proved to be fundamental support for Corporate Social Responsibility (CSR) scholar's intent on the identification of 'corporate social obligations,' imposing itself as a separate concept from the latter, but partly overlapping (Freeman, R. E., Dmytriiev, S., 2017). CSR emphasizes the importance of considering socio-environmental interests in the conduct of business practices. The two concepts diverge since the 'stakeholder theory' considers CSR only one of several forms of corporate responsibility. In contrast, the latter considers the orientation towards collective needs as a priority, compared to other corporate responsibilities. The following figure expresses the described concept (Freeman, R. E., Dmytriiev, S., 2017).

Fig.: 1.4.: Relationship between CSR and *stakeholder theory*



Source: Freeman R.E., Dmytriiev S. (2017), *Corporate Social Responsibility and Stakeholder Theory: Learning From Each Other* S ynphonia.

The two overlapping areas highlight a relationship between specific stakeholders and CSR (community, affected society, some employees, some groups with specific interests affected by business activity, some customers and consumer groups). The figure shows that civil society is always involved in CSR.

CSR profoundly involves aspects related to sustainability in the tourism sector, as it translates into the responsibility of managing activities towards the instances described (community, clients, surrounding society...). In recent years, this is taking place in a way that is increasingly synergistic with the tourist. Thus, the sector distinguishes between sustainable tourism and responsible tourism (linked to a lifestyle that promotes cultural and biological diversity and the preservation of natural resources, both at home and while traveling). While on the one hand, it is possible to speak of sustainable tourism by adopting a "supply-side approach" (the development by companies and destinations of policies and strategies that respect all stakeholders' interests and the environment, including the heritage). On the other hand, responsible tourism is defined by a "demand-side approach," meaning it the adoption by tourists of respectful behavior toward resources, places, and people, contributing to promoting the welfare of the local communities.

Another characteristic of the sector is that the responsibility of tourism companies in terms of CSR cannot be achieved without involving the tourist. Since tourism is a people-centered industry, companies operating in this sector must have a competent and motivated staff to manage human resources in the direction of paying attention to the impacts determined and sensitizing tourists to adopt a behavior aimed in this direction.

Finally, for CSR to be efficiently implemented, the industry operator must be familiar with the stakeholder system in which it operates.

1.3.1. The stakeholders' system

The variety of stakeholders involved in the dynamics of business management is due to the different sources of interest that are impacted by business management. This creates a synergistic aspect that constitutes a 'system' capable of directing the company's operational activities even in the absence of direct stakeholder participation.

In tourism, the stakeholder system involves public and private stakeholders. Below is a figure that makes them explicit.

Fig.: 1.5.: Tourism stakeholders



Source: UNWTO

It should be noted that in each stakeholder category, others can be included. For example, small/medium enterprise includes travel agents, restaurants and hotels; Government includes local, national and international government; Transport includes cabs, trains, planes, both local and international, and so on.

1.3.2. Stakeholder management

Over time, the presence of such a variety of stakeholders has had the effect of converting business management from being self-sufficient, i.e., independent of the context, to be respectful of the requests of all those involved. In this way, there was a need to develop stakeholder management, a new managerial methodology that aims to manage company activity in the general interest. Carroll has identified five questions that allow grasping the ingredients necessary for the correct operation of stakeholder management (Freeman, R. E., Reed, D. L., 1983):

- 1. What are the stakeholders?*
- 2. What are their interests?*
- 3. What are our stakeholder's present instances?*
- 4. What social responsibilities does the company have to them?*

5. What strategies, actions, or decisions should be made to best address these responsibilities?

In addition, concerning social responsibilities, Carroll identified a stakeholder/responsibility matrix, identifying the specific duties (economic, legal, ethical, philanthropic) attributable to individual stakeholders.

From a practical standpoint, this is a matrix used to organize the work of managers concerning the economic, legal, ethical, and philanthropic commitments that the firm has to its stakeholders (Freeman, R.E., Reed, D.L.,1983).

This approach can also be used by management to integrate the organization's values.

The need to protect the stakeholders' interests leads the company, which has management prepared for this, to adopt management formulas that consider every impact resulting from the choices made (Freeman, R.E., Reed, D.L.,1983).

Once the various stakeholders are identified, it is clear that the management of these activities, from a stakeholders' management perspective, requires precise knowledge of the organization's value chain', and in particular of the individual functions and divisions' costs (including 'notional' costs) (Grant R.G., Jordan J., 2013).

From an operational point of view, the ultimate goal concerns implementing the results of the various business levels identified and is ensured by the definition and sharing of targets or the objectives pursued (Sciarelli, M., Tani, M., Papaluca, O., 2011). With respect to the past, the novelty lies in the abandonment of the search for the satisfaction of a single objective to pursue several, in the awareness of the new corporate identity identified in its stakeholders. The company is managed for and with the stakeholders.

When relating the above to the tourism sector, management has the burden of identifying its stakeholders and tracking the overall impacts produced. Once this framework is in place, action should be taken to address the interests of the identified stakeholders. For example, a restaurant located in a rural location, rich in natural resources, will implement proper stakeholder management by valuing local products and sponsoring zero-mileage sourcing. The use of beverages bottled in glass bottles, napkins made of recycled paper, and agreements with local communities will offer an image consistent with the green ethics that will be adopted. One hotel will employ local staff, refer to the nearest laundries, and offer guided tours of the most historic

sites. It will also publicize local initiatives by promoting their growth, sponsoring electric-powered transportation lines, and recommending conduct that respects the environment in which it operates.

Stakeholders should be considered on an equal footing with clients, satisfying their interests and creating a sort of pact with them to create stakeholder engagement.

1.4. Stakeholder engagement

Based on the consideration of widespread interests, the new business culture has also conditioned the information aspects. The introduction of stakeholder engagement recognized stakeholders' right to be heard by the company reporting to them the outcome of the activity and its choices (AA.VV., 2015).

The term indicates a new management method that imposes accountability to stakeholders, which is done, in essence, by informing them of how activities are being carried out. The annual report and the social report are the primary documents for this purpose. In order for the documents mentioned above to meet expectations, it is necessary to have acted following 'inclusiveness,' a principle that requires considering the stakeholders' aspirations and needs. "Striving for inclusiveness" implies that the organization commits to reflect on each stakeholder's group views and needs at all stages of a process. Stakeholder views are captured through an engagement process that allows them to be expressed without fear or constraint. Inclusiveness requires that voiceless stakeholders including future generations and the environment be considered" (AA.VV., 2015).

According to the principles of stakeholder engagement, the overall entrepreneurial aim is the creation of economic and social value through the management of the system of relations with the various stakeholders and their maximum involvement, albeit figurative, in decision-making processes. The mapping of stakeholders is the starting point for effective stakeholder engagement. At the same time, their involvement is ensured by evaluating the interests at stake and the consequent weighting of the requests that emerge.

As a general rule, the larger the size of the business, the greater the impact on the stakeholder groups, so in such cases, it will be essential to maintain a dialogue aimed at negotiating the interests at stake and ensuring an alignment of values between the company and the group in question.

In order to avoid unwanted impacts, stakeholders can oppose them; on this topic, Frooman introduced the so-called 'stakeholder influence theory,' referring to the various actions that can be potentially postulated to oppose the corporate activity considered harmful (Frooman, J., 1999). Vendettas and boycotts, denigration campaigns, divestments or sales of shares, etc., represent the main tools for defending oneself against companies. In light of the potential damage, Frooman's theory of stakeholder influence suggests entering into an engagement with stakeholders, i.e., a kind of non-belligerence pact that provides that there is always a kind of collaboration to act for the common good.

In the tourism sector, stakeholder engagement involves involving operators in various initiatives such as those aimed at enhancing the community, the environment, and workers' rights. Tourists are involved in initiatives that see the use of recyclable materials, zero-mile food, etc., and report on the outcome of their vacations to enable improvements.

Another form of stakeholder engagement in the tourism sector is achieved through the publication on social networks of the activities carried out. It is possible to trace the initiatives of the companies and propose their own. In this sense, the portals of the tourist activities must be customer-centric, paying close attention to the content, which must be designed according to the type of target market to be reached; they must be usable and open to comparison with interactive sections. Finally, there must be the possibility of interaction that gives effect to the system of comparison described.

1.5. Creating value for stakeholders

Despite its wide diffusion in the business field, stakeholder theory has not been free from criticism, first of all for being difficult to apply in practice and, secondly, for being characterized by the inability to provide a concrete guide to reconcile interests that are often conflicting (Rowley, T. J., Moldoveanu, M., 2003). Concerning this last aspect, the theory does not dictate any criteria useful for prioritizing priority to external interests. However, over time, it has been equipped with tools that aim to assess the impacts generated by management.

The prominence of the stakeholders' focus is partly due to the development of the strand of study of the theory that adopts the perspective that sees stakeholders as actors who contribute to the creation of value (Freeman, R.E., McVea, J., 1984).

This assumption is supported by the fact that the stakeholder system constitutes an exchange apparatus with the company that can have very positive values. In this sense, it highlighted the chance of developing collaborative strategies or involvement. Where there are the prerequisites and, vice versa, also of assuming defensive or monitoring positions in cases where stakeholders are identified who can produce potential threats and with whom there are no exchange conditions.

Once the nature of the stakeholders has been outlined, it becomes possible to manage them so that they contribute to the function of creating value for the company, society, and the environment.

1.5.1. Managing value with stakeholders

As mentioned above, the new corporate culture is based on values that, when translated into management, must make the two requirements of increasing profits coincide without penalizing the other interests mentioned based on shared ethical aspects. The purpose is to do "something additional" by acting in a system of social cooperation aimed at creating value for each of the actors involved (Freeman, R.E., McVea, J., 1984).

In this sense, the term "*Corporate Social Responsibility*" is transformed into "*Company Stakeholder Responsibility*," extending social responsibility towards stakeholders and identifying a new interpretation of social responsibility that is to create value for all parties involved by fulfilling responsibilities towards them. This is where the need to operate in compliance with economic, environmental, and social sustainability implies that it is impossible to separate business from ethics, i.e., from obligations towards stakeholders, and this is achieved by propaedeutically assessing their business impacts before undertaking any operational initiative.

Thus, stakeholder theory has a managerial implication, providing suggestions on doing business within limits dictated by ethics. Specifically, this approach focuses on the most appropriate management solutions that create value for customers, employees, suppliers, the community, and lenders. Managers must, therefore, always be clear about the impact of every action taken, taking care to prevent consequences that are not consistent with sustainability.

In addition, it is necessary to assess each stakeholder in both the operational, i.e., interventionist, and non-interventional choices. (e.g., Shell refused to use its influence on the Nigerian government to stop the execution of political activist Ken Saro-Wiwa,

which resulted in a revolt against the company. In this case, these were secondary stakeholders who, however, can impact the firm). For management to be carried out to bring value to all stakeholders, a collaborative and osmotic vision is necessary and always underpinned by the enhancement of ethical leadership.

Interestingly, the positive relationship between ethical values and corporate performance, such as sustained profitable growth and high innovation, has emerged in several studies dealing with the link between ethics and performance.

The value management in tourism companies lends itself particularly well to being carried out together with the stakeholders. Especially in Italy, where the tourists' operators are "flexible" and "family" nature, small-medium-sized businesses manage to establish dynamic relationships with referent context and facilitate the reaction to potential changes taking advantage of market opportunities quickly businesses. However, even in larger businesses, it is possible to create conditions for management that involve stakeholders; in such cases, it may be helpful to prepare a clear protocol from which the 'values' pursued can also be drawn and shared with them.

Value creation is increasingly dependent on innovation, and, once again, the role of stakeholders is crucial. In the following, this relationship will be analyzed.

1.5.2. How sustainability affects stakeholders' behavior towards innovation and value creation

The role of stakeholders also proves to be important in stages where firms turn to value creation through innovation (Hult, T. M., Mena, J. A., Ferrell, O. C., Ferrell, L., 2011). As mentioned above, organizations create value in various ways, including through an interdependent network of social relations which, precisely during the innovation process, takes on a particular significance.

One of the most critical aspects of implementing innovations lies in the collection of information, which requires an efficient network in which stakeholders act as information providers. The possibility of using different types of stakeholders is configured as viaticum to create valuable knowledge for the company that, once processed, can be translated into innovation (Puccia, T., Casprinia, E., Galatib, A., Zannia, L., 2020). Some studies have concluded that co-creating value with stakeholders during the innovation process requires specific methodologies and skills in the absence of which inefficient outcomes are likely (Hoyer, W. D., Chandy, R.,

Dorotic, M., Krafft, M., Singh S. S., 2010). The main question concerns the necessity to create a network that interfaces with all the stakeholders finalizing it to individuate the knowledge on the subject/object of innovation. The former is often characterized for being dynamic and, therefore, not easily accountable (only a network able to supply information in real-time can guarantee a valuable contribution to the innovation).

Once the network is set up, methods and tools are needed to facilitate active stakeholder participation during the innovation process (Coviello, N. E., Joseph R. M., 2012).

Moreover, since an innovative process necessarily produces conflicts between different types of knowledge, specific skills are needed to manage them.

These capabilities are particularly relevant in a context where the innovation network consists of multiple stakeholders from, i.e., different sectors.

In the absence of such skills and the ability to involve stakeholders in their innovation projects, according to the studies cited, the results tend to be negative, unlike in cases where firms are focused on profit maximization.

In addition, since innovations tend to be implemented first by the leading firms, they must manage this networking by mapping their competencies before a project begins. This mapping is used to assign the correct value to the various pieces of information that are collected. Once the mapping is created, it is required to know how to manage stakeholder relationships and properly appropriate stakeholder knowledge. What is particularly important in the innovation phase is the need to acquire the skills to trace valuable knowledge, filtering out what is not, and, secondly, to be able to identify its correct use in the innovation process. Following this perspective, the stakeholders' value co-creation process in the innovative phase must be inspired by the clearness and executability of their know-how and sustainability's demand (Felin, T., Foss, N. J., Heimeriks, K. H., Madsen, T.L., 2012). Once the mapping of stakeholders' interests and how to trace their knowledge has been accomplished, the appropriation of what is deemed usable requires a further step, namely their proper use. This implies that information is analyzed and understood in a way that ensures it is functional in the stakeholder co-creation process (Harrison, J. S., Bosse, D. A., Phillips, R.A., 2010). How the company 'absorbs' information from stakeholders, i.e., how you interpret it, has a profound effect on successful innovation and value co-creation, and the insights themselves are affected.

The co-creation of value by stakeholders implies that they provide practical lessons to managers who must be able to employ them correctly, so the mechanism appears very complex.

Today, there is a lack of suitable protocols to guide this complex mechanism. However, there is no doubt that managing value creation with stakeholders in innovative activities requires moments in which it is necessary to produce interfaces suitable for gathering knowledge and transforming it into innovation can be implemented.

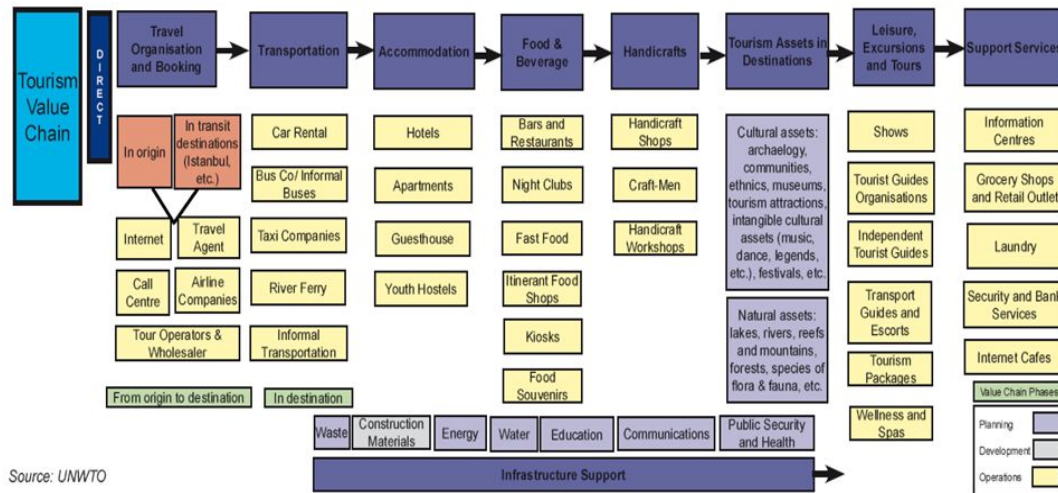
Another aspect that needs to be addressed is the potential for collaboration among stakeholders to improve skill acquisition.

In the innovation phase, therefore, it would be appropriate to share information within the network created to enhance co-creation. Subsequently, the pioneering firm should share the data with other firms involved. These steps require manager oversight to manage conflicts that may arise during comparisons, formulating solutions appropriate to the information held. This skill requires having a clear overview and being able to assess the effects. From this information, it is helpful to extrapolate the potential effects of innovation on end consumers, anticipate them, and prevent problems from developing.

In the tourism sector, the creation of value from sustainability and stakeholder involvement is particularly complex, although potentially rich in ideas and essential advantages. The sector is characterized by the versatility of stakeholders who operate both by offering services and finished products. The following figure shows this complexity.

Fig. 1.6.: Tourism value chain

Tourism Value Chain - Parties directly involved



Source: UNWTO (2018)

One of the sector's characteristics is the strong emphasis on labor and, therefore, the personal element as opposed to sectors that make predominant use of machinery. This makes the value creation process subject to personal interpretation and evaluation, exposing it to the risk of not being adequate. However, it is possible to create the synergies needed to identify the right implementations by comparing stakeholders, especially in the innovation phase. Given many stakeholders, the creation of a network in the tourism sector takes on particular importance, bringing together a wide variety of interests.

1.6. Synergies between innovation and sustainability

Considering the greater efficiency that can be obtained from the support of a cohesive group compared to the action of individuals, synergy represents this greater capacity for performance (Perrini, F., 2012). It depends on the interaction and the mode of communication between the members of the group that manages, also, to ensure constant support against external threats.

One problem with synergies lies in the possibility of making riskier decisions than a component would have made individually because there is a tendency to underestimate the overall risk.

In the case of an innovative process, which implies compliance with the requirements of sustainable development, it is necessary that, in addition to the various stakeholders' knowledge, the impacts that the innovation causes are also considered. The synergies described should allow these impacts to be analyzed in their systematic dimension, transversal to the entire sector, the environment, and the community.

In addition, the original idea must conform to the principles dictated by sustainable development, as, during the implementation of the innovation, changes may be required. This implies that the entire network should be set up flexibly. This ensures that any variation is consistently implemented following the principles dictated by sustainable development. Therefore, each phase of the innovation process must be organized in a manner consistent with the requirements dictated by sustainable development. In practice, multi-stakeholder platforms (MSPs) have enabled innovation to provide constant and efficient support to innovative initiatives by allowing the sharing, in real-time, of the information necessary for the project in compliance with the requirements dictated by sustainable development. MSPs lend themselves to identifying global impacts created by innovation by making the various sectoral needs known. Thus, each stakeholder contributes to creating value while respecting sustainability. Multi-stakeholder innovation uses a network approach in each phase of the project. According to studies, there needs to be a focus on information exchanges, especially in the first phase. From the beginning, the guidelines that govern innovation are set, and from that point, synergies can help improve outcomes related to the generation of innovative interventions. The MSP mechanism can be a particularly effective implementation tool in innovations generated in developing countries, where facilities need to be implanted from scratch (KazadI, K., Lievens, A., Mahr, D., 2016).

One of the main advantages of MSP lies in the possibility of centralizing innovation networks by taking advantage of decentralized contributions, thus avoiding the dispersion of information. As seen, the final results depend on the way contributions are collected, which, managed by the center, are exposed to the risk of

downsizing some stakeholders. However, the synergies that can be produced can counterbalance this gap, highlighting the possibility of new solutions and proposals.

Problems remain concerning the outcomes of innovation processes that could be affected by the selection of information made upstream, which, if inappropriate, exposes the risk of innovating inefficiently and without respect for sustainability. From the experiences observed, however, it is clear that the approach detected in the early stages of MSPs influences the entire path and, therefore, the total results of the innovation. Finally, comparisons between stakeholders can highlight sources of funding provided for specific sectors, making innovative firms that, operating in other sectors, do not always hold the information to benefit from the supports provided (Kazadl, K, Lievens, A., Mahr, D., 2016). The comparisons between stakeholders create, therefore, synergies that can produce various effects and provide integrative ideas to the innovation or suggestions of changes having the aim to improve the innovative idea and, in this sense, create value.

This is also true in the tourism sector, where innovations follow one another as they do in other sectors. The comparison between the various stakeholders can provide essential ideas in this sector, characterized by high versatility. In this sector, it is possible to contribute to the innovation process more efficiently than if there were no comparison. Each stakeholder's contribution to the innovative process carried out in the tourism sector can determine significant multiplier effects. Just think of the sharing of needs expressed by local communities that can support their choices compared with the main actors operating in the tourism sector. If innovation concerns the use of digital tools, Hackathons, events that bring together IT experts to debate a theme could be helpful for achieving what has been described. In the tourism sector, which is highly digitized, Hackathons lend themselves to a public confrontation on an innovative theme, guaranteeing solutions that are particularly efficient in that they result from a brainstorming process characterized by high levels of competence. The following chapter analyzes this tool.

CHAPTER II

CREATIVE PROCESSES TO GENERATE NEW BUSINESS IDEAS: HACKATHONS

2.1. History, definition and goals

As mentioned in the previous chapter, a possible tool to combine innovation and sustainability in a single solution are hackathons. The following paragraphs will analyze the functioning of the "new" way of fostering innovation.

Hackathons are a form of brainstorming that started in the 1970s in the USA, in which computer experts, together with amateurs, gathered for an entire weekend to exchange opinions and suggestions on specific computer-related issues. The enthusiasts were members of a club, the Homebrew computer club, which was active until 1986, when such meetings became the practice of many computer companies, taking away their monopoly of the initiative (Kohne, A., Wehmeier, V., 2020).

The first meetings were not very complex because the computers of the time were not very advanced. However, over time, it was realized that they could also be instrumental in more analytical discussions.

The term "hackathon" was coined in 1999 at a meeting of Open BSD (security-focused, free, and open-source operating system) developers who met in Canada for a weekend to exchange views and seek solutions to operating system bugs: referring to a 'hacks' marathon. On that occasion, it was understood that the time was ripe to focus on implementing computer protocols, highlighting how a hackathon also lent itself to identifying and focusing on the problem posed, even clarifying its fundamental aspects. The hackathons' usefulness is linked to the brainstorming effects that they produce and the contribution in terms of creativity that they can provide. Hackathons bring together different teams to offer solutions to specific problems; therefore, an important aspect concerns their ability to act as a competitive tool. Competitiveness drives, among other things, from awarding the project deemed most efficient, triggering research mechanisms for optimal solutions in the participants. The triggered competition promotes brainstorming in the best possible perspective, making the most underlying synergies (De Gooyert, V., Roulette, E.,

Van Kranenburg, H., Freeman, E., 2017). We will explore this aspect in more depth in the following sections.

In addition to experienced programmers, hackathons began events through which hackers exchanged insights.

In 2005, a meeting took place in San Francisco, the USA, known as the Super Happy House, where hackers met in a private house to exchange views on their activities. Thanks to their effectiveness in finding solutions quickly and efficiently, hackathons soon became interested in solving many fields.

Today, hackathons mainly involve exchanging opinions, solutions, comments, and criticism on certain pre-agreed aspects between different experts. Companies such as Microsoft or Yahoo, for instance, regularly use hackathons.

In general, the objectives of a hackathon can be reduced to the following:

1. The exchange of ideas and solutions;
2. Promotion of innovative startups;

The first objective goes back to the origin of hackathons. From this perspective, the meetings consist of exchanges of views, opinions, solutions, and suggestions on specific topics. In addition to answers of an applicative nature, this objective can also lead to solutions involving new hardware design.

The solutions that can be found at the end of hackathons are almost always complete and satisfactory. They result from a debate between experts, connoisseurs of the market, and its innovations, potential, and trends. The objective of promoting startups is becoming more and more widespread and often involves the participants themselves promoting the business ideas they intend to follow. Innovative entrepreneurs, or innovative ideas proposed by corporations, are submitted to the

experts in other circumstances. In such cases, hackathons serve to provide support for innovation.

Hackathons are not only valid for the participants and the organizers, from an external point of view, they also fulfill some important purposes:

1. Driving innovation, addressing innovation processes related to the I.T. sector;
2. Recruiting, as, at the end of a hackathon, it is possible to trace the expertise present and need for innovative projects;
3. Teambuilding, as a hackathon produces motivation, and this creates cohesion between the participating teams, which are often destined to develop solutions outside the experience;
4. Increase external perception, offering an innovative and modern image of the company that organizes them.

In order to achieve efficient results, hackathons need to be organized in a way that is consistent with their objectives. Nowadays, the second point, recruiting, is becoming more and more relevant. Indeed, this tool is gaining fame and more usage in H.R. In recent years, there have been cases of companies that, following a preliminary screening phase, have organized hackathons within the firm to choose the most suitable candidates for their business context. The so-called "recruiting hackathons" has a twofold advantage: first of all, they provide job seekers with the opportunity to express themselves and bring out abilities that would not fully emerge from an interview; for companies, on the other hand, the advantage is that of finding new employees through the sharing and exchange of ideas, encouraging the creation of innovative know-how. An example of this formula was the "Whirlpool Hack," launched in November 2017 by the same U.S. company, a world leader in the household appliances industry, in collaboration with Monsters (one of the largest recruiting search engines in the world). During this 16-hour event (from 8:00 to 24:00), 60 recent young graduates in engineering and management, divided into 12 teams, challenged each other in a healthy competition on the resolution of 4 business cases (R&D, Marketing, I.T., and Consumer Service), designed by the company's top management. The result of the marathon was positive for both the company and the young graduates. The former enriched themselves with valid curricula, and the latter were able to challenge themselves with fundamental dynamics and conditions that

occur every day within the company routine. In the following, these aspects will be discussed in more detail.

Moreover, the current pandemic situation has forced companies to adapt to social distancing and organize fully digital events. The structural differences between physical and online events are several, in some ways advantageous and in others less so. In the following paragraphs, the characteristics and resources needed to organize a physical event will be analyzed, which will then be compared with those of a fully online hackathon, highlighted in Chapter III.

2.2. Hackathon's analysis

2.2.1. Preparation:

The organizational phases of a hackathon have an essential influence on the results, which is why they are achieved through a process that includes three phases: the event preparation, operation, and the results' follow-up.

The Preparation phase consists of drawing up a plan for the work to be carried out, including legal aspects, invitations, the search for sponsors, etc. The next phase, operation, is when the work begins, which occurs after the arrival of all participants received by a manager. After having read and shared the objectives that the hackathon intends to achieve, each participant introduces himself or herself and is included in the group set up expressly for the research, which will aim to find an innovative solution to one of the issues presented at the beginning of the conference. During the hackathon, each group is assisted by various figures, usually experts of the field, and have to present a final output, consisting of a prototype of their idea and a presentation. The project will be presented to the jury and the participants. At the end of the hackathon, there is a closing ceremony in which the jury will choose one or more winners, who are usually given a cash prize to concretize their project. The sponsor who launched the issue will then have the chance to internalize the project and co-work with the winning team. The next phase is the follow-up, i.e., monitoring the activities set up following the hackathon. If the hackathon concerns a corporate

initiative, it is necessary to involve the various managers, including the commercial sector, who will have to express their opinion on its impact.

- *Organizers, mentors and participants:*

Hackathons have therefore been transformed over time from mere meetings between enthusiasts into real business tools. Today, they are used by specific actors who have realized their enormous potential. In the first place, corporations are the natural organizers of hackathons, together with promoters from outside the corporations and public agencies. Finally, clubs, as advocates of specific interests, also tend to make use of hackathons. Corporations are the main hackathons' organizers, benefiting from the brainstorming they carry out. They organized so-called 'internal' hackathons within the company, i.e., only employees participate and aim to develop a product or service and, increasingly, at launching new products (Kohne, A., Wehmeier, V., 2020), stimulating innovation through competition among employees.

Nowadays, companies carry out hackathons regularly, often annually, to follow up on a project that has been launched, address complex problems that have arisen within the company, or encourage innovation through team-working. One of the most outstanding examples that prove so is Facebook, which has run over 50 hackathons since its launch. Since the beginning, the world's most high-tech company has been running hackathons, turning them from informal internal fairs to fulfilling team bonding and brainstorming successful events. As shown in the film "The Social Network" (2010), the first hacker who worked for the website's construction was chosen through a hackathon strictly related to computer programming. Features such as "donations," "safety check," and even the "like" button were born thanks to this formula.

Furthermore, the company runs internal hackathons to encourage team bonding, collaborations and cleverly exploiting breaks from daily hard work. "It's just a mental break," stated the platform's VP Deborah Liu, in a speech during Facebook's 10th-year anniversary hackathon (2017). Facebook is just one of many other giants that use hackathons as a habitual instrument to innovate.

Due to the rapid processes of change imposed by globalization, corporations organize hackathons to respond adequately and promptly to market swings, which are becoming increasingly frequent due to the digitalization phenomenon. The Hasbro

case proves how important and costly-convenient is for companies to adopt this instrument to keep pace with the digital transformation. In 2013, the U.S.'s toy company broke away every tradition of the sector, organizing the "Hasbro-a-thon, playing with innovation" event. It brought together 150 developers to create 45 products in a few days. To gain the same results through traditional research would have cost years and billions of dollars. However, embracing this high-tech solution, Hasbro managed to keep up with the constantly evolving market.

As analyzed above, this phenomenon is growing at an exponential rate. It is profoundly modifying the activities of most sectors, especially the tourism one, in some cases simplifying the operators' work, in other cases complicating it. It is essential to consider that tourism is an 'experiential' sector-based, therefore, on contact between the tourist and the place visited. Hence, digitalization is not always understood and desired by travelers.

In contrast, hackathons outside companies consist of sessions in which experts on particular issues meet to discuss and solve specific issues. Therefore, in this case, the benefit of discovering innovative solutions goes to the sector and not only to the company launching the problem. However, some companies that organize external hackathons also invite experts from the sector to recruit, i.e., look for exceptionally gifted individuals to eventually include in their company in the future.

Public agencies may also find it helpful to organize a hackathon. In these cases, the issues addressed are characterized by being related to services and the community, often seeking the most appropriate technological solutions to manage them. Also, in this case, hackathons can involve both employees and external experts.

Finally, hackathons may involve comparisons between members of associations, i.e., clubs, in search of members, grants, or simple external publicity. Many associations also use hackathons to find the best way of presenting their projects to potential stakeholders.

Whatever the topic of hackathons, it is always good for organizers to correctly identify the target audience. Once the objective is established, and experts' request is publicized, the best practice is to choose a target of people to whom to address. The participants' target can be vast, as in Hack for Travel, which is analyzed in the next chapter. In which the adhesion was addressed to all operators of the tourism sector. The event involved a wide range of tourist stakeholders: young engineers, hoteliers, call centers, etc. In some other cases, the target limited to a specific audience, as in

the case of "The Big Hack, internet of things" organized in 2016 by the startup and innovation department of the Campania Region, in Piazza del Plebiscito in Naples, which being technology-themed, was directed to developers, engineers, web-designers, start-uppers, students, makers, creatives and digital artisans.

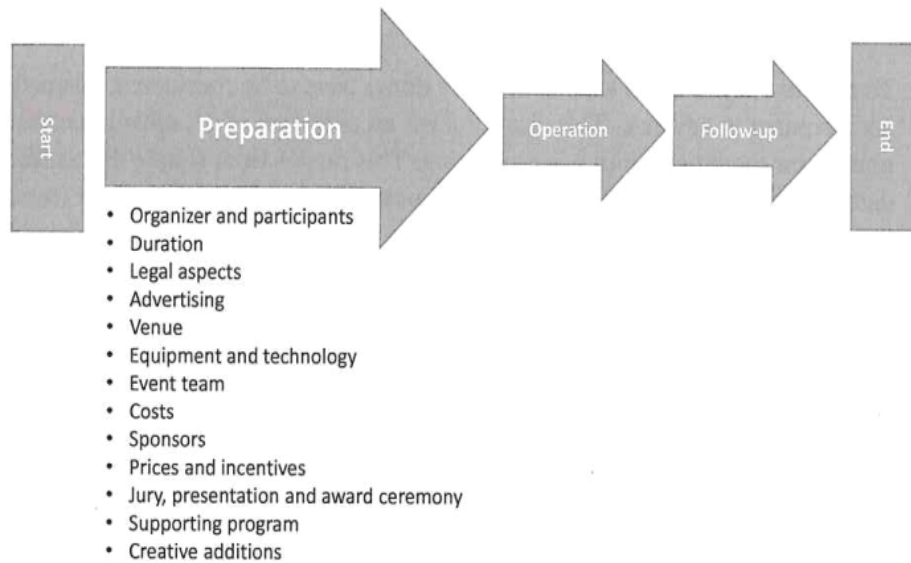
Another aspect that organizers should investigate is the participant's motivation and skills. Based on the outline of the profiles, it will then be easier for the organization to divide the participants into various teams, each of which will choose a specific pitch to develop its project. There can be students or neo-workers in the target group, through which organizers aim to exploit the "freshness" of their perspectives. Since they were born in more contemporary contexts, already changed by globalization may provide even more up-to-date solutions. In other cases, the target age group of participants is extensive to foster collaboration between different generations.

Participants are supervised throughout the conference by figures known as "mentors," sector operators, experts in the relevant topic, professors or researchers, and sometimes even collaborators of the sponsoring companies. These figures have the objective of "guiding" the groups during the hackathon, pointing out any problems during designing the prototype, and sometimes "crushing" those projects that from the outset appear to be not very functional for the market.

The preparation phase deals with bringing together these three categories of actors, organizers, mentors and participants, and defining the main aspects needed to prepare the ground for the start of the conference.

The contents of the preparation phase, which precedes the operational phase, are described in the figure below. In the next section, the aspects mentioned in the figure will be analyzed.

Fig: 2.1. Preparation phase



Source: Kohne A., Wehmeier V., Hackathons, from Idea to Successful Implementation, Springer, 2020

- *Resources, costs and duration*

Generally, the duration of a hackathon is relatively short, in most cases covering a day or weekend. However, virtual meetings are lasting up to six months or short meetings of a few hours.

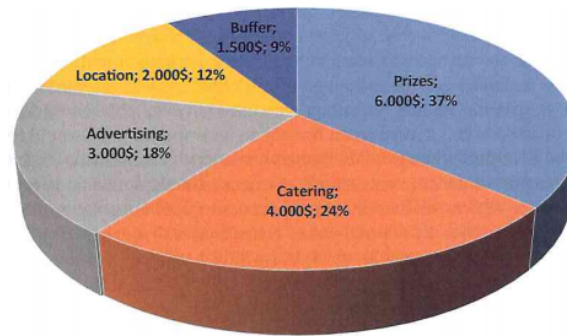
The duration should be anchored to the difficulty of the hackathon's topic, but it is always better to increase the number of participants and reduce the time for their success. In the latter case, it is possible to assign a theme to each team and, once the session is over, collect the numerous results and proposals, rather than prolonging the work.

Work breaks also determine the duration of sessions. These are generally decided by the team itself, depending on the pace of the work (Kohne A., Wehmeier V., 2020).

The organization incurs fixed costs, such as the rental of the hackathon venue, catering, advertising, IT costs, and participant fees if the event is physical, and the online-platform costs if the event is virtual.

Below are the proportions of these costs in total in the first case. Catering is the cost with the most significant impact.

Fig. 2.2: Costs of a hackathon



Source: Kohne A., Wehmeier V., Hackathons, from Idea to Successful Implementation, Springer, 2020

- *Sponsors, prizes and jury*

To meet these costs, the organizers use sponsors. The sponsors are companies, some of the leaders in their sector, who launch the themes to which the groups will then have to find innovative solutions. In the preparatory stages, invitations are sent out to potential sponsors, dividing them according to their contribution into supporters, involved, and enthusiasts and proposing a specific sum for each category. The advantage for the supporter lies in the visibility that the event provides. Since a hackathon has a jury that awards prizes for the best of the proposed solutions, the sponsor can also benefit by being part of the jury.

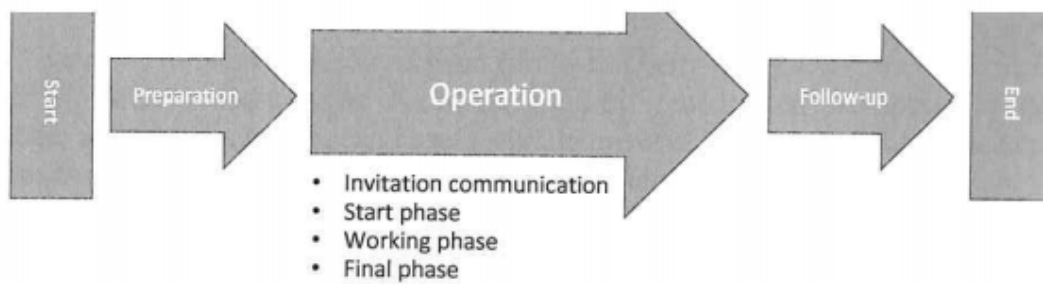
In addition, sponsors offer prizes, usually in cash, which the winning team will then use to create their prototype. Finally, as mentioned before, the chance of collaborating with the winning team and internalizing the project that the jury considers to be the most interesting is a further motivation for the potential sponsor to participate in the event.

Once the applications have been collected, the duration established, and the available resources, the next step is operation.

2.2.2. Operation:

The operational phase is where participants start to confront each other. Below is the content of this phase.

Fig.2.3.: The Operation phase



Source: Kohne A., Wehmeier V., Hackathons, from Idea to Successful Implementation, Springer, 2020

The operational phase starts with an invitation to applicants.

This is usually done after publishing a notice describing the issues to be addressed and the skills required.

The formal invitations to participate in the event also indicate any media required (e.g., personal computers). Once the choice of participants has been made, they receive a formal invitation indicating the location of the hackathon. On the agreed day, there will be a person responsible for welcoming participants.

Spaces are designed to allow for regular work, with provision for monitors, breakout corners, and desks to provide media, pens, paper, attendance forms, etc. The work phase starts with the clarification of objectives and critical issues. After that, it enters the more concentrated phase. The participants break up into teams according to the expertise or single solutions sought and begin to analyze the case in a discussion. In the end, the solutions proposed by each group of experts are discussed together. Each team tends to present its solution according to the following descriptive scheme:

1. Problem and context;
2. Solution;
3. The target market;
4. Value proposition;
5. Practical example (demo);
6. Team;

Once the session is over, the work continues in the form of follow-up or monitoring of the solutions adopted.

2.2.3. Follow-up phase

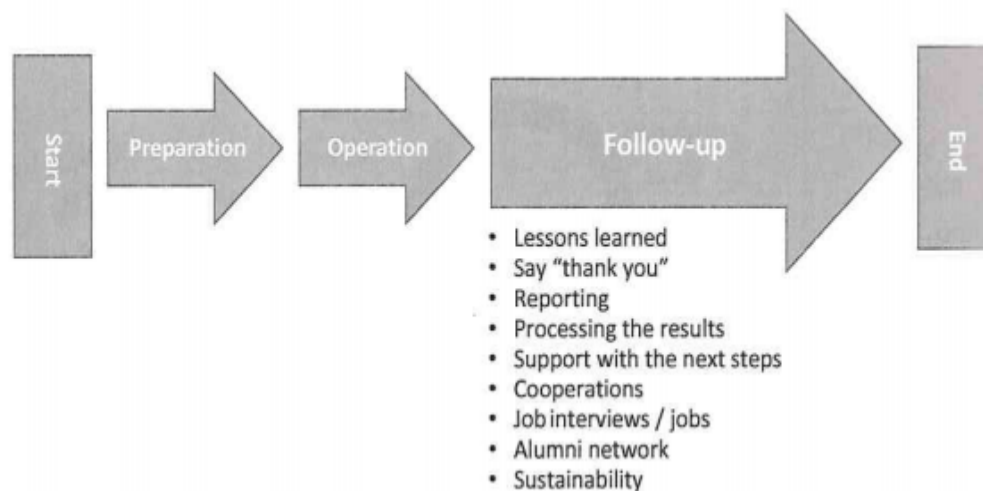
At the end of the operation phase, where the winners are declared, usually, it takes from 30 to 60 days to deliver the prizes. Beyond the awards, the winning business idea is implemented or assimilated into the business contexts during the follow-up

phase. Unfortunately, this phase often does not happen: projects are abandoned, or worse, a phase of exploitation of the idea is initiated without involving those who conceived it. Therefore, it is crucial that sponsors participating in the event and awarding prizes undertake a structured innovation process.

As will be explained in the following paragraphs, the hackathon is a process of open innovation. In order to be effective, the participating companies' minds must also be open to "contamination" and exchange of expertise.

Below is a figure indicating the contents of the phase.

Fig.2.4.: The Follow-up phase



Source: Kohne A., Wehmeier V., Hackathons, from Idea to Successful Implementation, Springer, 2020

2.3. Hackathons: when collaboration meets competition

The competition theme is recurrent when studying this phenomenon; indeed, one of the ultimate goals of hackathons, as analyzed in the first paragraph, is the search for innovative solutions, but what gives impetus and life to the marathon and leads the event to the achievement of this goal is competition. Although continually questioned rules characterize the economic environment and traditional organizational models are replaced with agile structures, a principle remains as solid as vital for companies: 'speed is the essence' (Cahill, B., 2014). Speed in thinking, acting, and reacting to rapid changes in the market creates opportunities for companies to allocate new products and disadvantages for those who are not quick enough to embrace them. Hackathons are tools that launch challenges by setting teams in the competition to "squeeze" them to the maximum and develop business ideas in a short time, and this is where the competition lies as a stimulus to innovation.

Nevertheless, if competition is a central theme, collaboration is no less critical. Collaboration, when organizing these events occur in a double key, within the teams, where the members collaborate to find the best possible solution to the challenges imposed by the sponsors; and, between the different organizers, sometimes belonging to the same sector, some other times public operators or associations. This second aspect is necessary to make the effectiveness of the event as higher as possible.

A key example that explains the significance of competition and collaboration is the Dutch Open Hackathon, an event organized for the first time in 2014 by international giants who joined forces to take innovation to another level. Companies such as Philips, Rabobank, TomTom telematics, Amsterdam Airport Schiphol, KLM, and others, attracted a large network of developers from different countries who challenged each other to create innovative applications. These companies collaborated to organize the event and provide the participants with all the APIs (application programming interfaces) and technologies of each partner. The initiative came from TomTom Telematics, who believed that, by combining data from different companies, innovation and data management levels could be achieved more efficiently and eco-friendly. Once the participants were selected, the 50 teams formed competed for 30 hours at the end of which they were judged on the design attractiveness of the project, its usefulness to the consumer, the team's ability to cross-reference certain data sets, and the creativity of thinking out-of-the-box. The winner was WelcomeHome, an app that allows families or friends to send gifts to passengers arriving at Schipol Airport, an intelligent way to enhance the baggage wait. The app was then promoted and launched by Philips on google cloud. Alberto app was the runner-up, a brilliant idea that mixed uber, tinder, and online shopping, creating the possibility for users to decide the time and place to get the groceries delivered and finalize the request, a series of drivers bid according to their proximity for the delivery. This event showed that the more APIs and technologies come together, the more valuable and innovative the resulting ideas are. Collaboration is a crucial and imperative element to the success of such big dimensions' events, at least as much as competition is to create innovation.

If we consider competition as the fast engine of innovation, collaboration drives the organization and determines the event's success in the broadest sense.

Fig. 2.5.: Dutch Open Hackathon



Source: the web

2.4. Hackathons and sustainability

Sustainability and innovation are two recurrent concepts when it comes to hackathons. Through the development of hackathons, companies manage to generate innovative business ideas, encourage collaboration and competition between colleagues, and contain costs and time. The examples provided above clearly show these aspects. Recently, sustainability also appears in a double key:

- Sustainability as the object of the hackathon, i.e., companies that organize these events to tackle sustainability challenges or integrate sustainability in their work.
- Hackathons as sustainable processes to generate innovation;

The following paragraphs will analyze these two sustainability nuances of hackathons.

As already mentioned, a relevant aspect in hackathons is the follow-up phase, which consists of monitoring the evolution of the decisions taken regarding the initial project. The jury shares the hackathon's winners. One of the aspects that should be monitored is the sustainability of the solutions adopted, i.e., the possibility of realizing them with the available resources and assessing their environmental impact (Kohne A., Wehmeier V., 2020). In this sense, hackathons are instrumental in sustainable development. A hackathon is sustainable if the solutions offered are feasible without irreversible effects, which is why the jury voting for the best solution must also take this aspect into account.

2.4.1. Sustainability as object of the hackathon

Sustainability can also be a target for discussion in a specific hackathon, which would involve finding appropriate solutions to this issue. Public agencies, but also corporations obliged to adopt CSR criteria could, for example, hold hackathons in which experts discuss specific solutions to make certain realities adhere to the assumptions of sustainability, or to report it correctly. An example of sustainability as the subject of a hackathon would be when large corporations, which are obliged to draw up sustainability reports, organize an event aimed to finding solutions to make the company compliant with CSR legislation.

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A concrete example of a hackathon with a sustainable theme is the Community Hack, organized by the Foscari University of Venice and "NeXt – New Economic for Everyone," an association born in 2011 to promote a new economy to be civil, shared, and sustainable. NeXt shares with over 40 national associates and partners (as ERShub Uniluiss, TorVergata, and Unitelma Sapienza) the vision of the New/Civil Economy and experiments with their activities in the territories related to strengthening and supporting the creation of "best practices," the territories' sustainable development, training of young people, students and startups and initiatives of active citizenship and responsible consumption. The event, held entirely online on the Zoom platform, started on the 13th of April 2021 with an explicatory presentation of the objectives and the winning prizes. The Hack's duration was two weeks, in which the teams had to develop their projects with remote support from NeXt experts via in-depth material and targeted calls. One of the challenges was proposed by NaturaSi, a leading Italian company in distributing organic products, and proposed to the participants the theme of "right price," which means finding an innovative way to enhance the entire ecosystem of values and actions that lives behind the products. The critical aspect highlighted is that the right price is not

necessarily the lowest one if it includes all the positive externalities that sustainable agriculture produces. Each winning team of its Community Hack became part of a particular online ranking visible on the Next website and related social. The first three winners have access to the online pre-incubation process with NeXt's experts to realize their business idea and the possibility of uploading their projects on a crowdfunding platform.

Fig.2.6.: Community Hack, Ca' Foscari University



*Source:*Università Ca' Foscari Venezia

2.4.2. Hackathon as a sustainable process to generate innovation

As previously introduced, the function of hackathons is to discuss innovative solutions through a brainstorming process.

In stakeholder engagement, hackathons represent one of the tools for this purpose, as they allow collaboration with stakeholders to realize innovative projects and products, thus creating shared value (Gottfried, J., 2014). In addition to allowing the development of programs that aim to promote the exploitation of talents and support innovative projects (or joint projects activators of strategic partnerships). Hackathons, being digital marathons organized to respond to a unique challenge, lend themselves

to stakeholder engagement tools by involving specific actors operating in the industries (Fortis, M., 2016).

Generally, companies' innovation paths are very demanding and require dedicated opening departments, hiring new people, finding new spaces to develop projects. These are high costs that absorb companies' profits. The research and development model usually applied is called "closed innovation"; by using hackathons, the process described takes "open innovation" as it is open to people from outside the company. On such occasions, meetings consist of highly competitive and creative marathons in which it is also possible to introduce design hypotheses or 3D prototypes. Such marathons are characterized by being highly creative. In order to prepare for the event in question, it is generally advisable to allow a considerable time interval between its announcement and its realization. This allows participants to prepare for the marathon by acquiring more information. Such hackathons are characterized by the high level of competition among participants, as the innovation produced tends to be rewarded with money or collaboration contracts for the participants.

2.5. Hackathons in the tourism industry

The tourism sector has only recently approached hackathons. An Italian example of a hackathon applied to the tourism industry involves the students at the University of Udine's Master in "Tourism Enhancement of Cultural and Environmental Heritage", but many others were organized to support the sector.

Hackathons are used for various purposes, including to enhance creative tourism by reconceiving urban spaces (Marques, L., Borba, C., 2017). In other cases, hackathons were promoted to plan and program events and festivals (Filippova, L., et al., 2017) and in museum contexts. Visitors and museum operators were involved in the participatory dynamics of developing digital art pieces and innovative practices managing the museum experience (Rey, A., 2017).

As a result of the current environment changed by Covid 19, it is becoming increasingly necessary for the tourism industry to find solutions to secure more and more of the tourist experience; in this regard, Hackathons lend themselves as an optimal tool. Concerning this aspect, on October 2nd, 2020, the Swiss Canton Ticino organized a 24-hours hackathon entitled Fu-Turismo, counting over 130 participants, and held entirely online on a platform named Slack. In collaboration with the Department of Territory and the Division of Economic, this marathon was promoted

to collaboratively explore tourism transformation's potential to implement the flows and quality of services. The hackathons had seven main themes: transformative tourism, tourism, and nature, inclusive tourism, inform and anticipate, food and tourism, industrial heritage in Ticino, and tourism through the four seasons. The organizers' request was also to improve the quality of life of all parties involved: both operators and the population not directly involved by the flows. The winning project, so-called Micro-Habitat, has proposed an avant-garde structure in which guests stay in nature modules elaborated with natural materials, self-sufficient from the energy point of view and inspired by the social organization of ants (www.ticinowelcome.com).

Moving to the Italian scene, the main Hackathon organized in the tourism sector was the TO.MA.TO. which stands for TOp MArathon TOurism, held at the National Railway Museum of Pietrarsa in 2016. The Hackathon was conceived to gather innovative ideas and projects to be implemented in the tourism sector. For the occasion, young talents with skills and knowledge in innovation, technology, social innovation, development, programming, and creativity were invited to participate in a 24-hour collaborative co-design event.

In May 2020, the Italian National Agency for Tourism (ENIT) organized a hackathon to collect ideas for the tourism relaunch in the very middle of the pandemic. The public event called together innovators, start-uppers, developers, operators in the world of tourism and culture, designers, researchers, and creatives. The competition focused on innovative solutions and ideas for receptivity and tour operators; innovative solutions and ideas for tourist destinations; innovative solutions and ideas for museums and culture (www.enit.it).

Subsequently, in November 2020, the second Hackathon was held as part of the European project PITER GRAIES Lab, dedicated to developing innovative solutions for the food and wine tourism supply chain involving rural and mountain locations in Canavese and Valli di Lanzo. The edition was carried out remotely and saw the participation of teams, connected on a collaborative platform, who proposed digital solutions aimed at responding to the needs for change, innovation, and evolution of the actors operating in the area described dealing with the food and wine tourism chain (Paniccia, P., Baiocco, S., 2021). These types of events, dedicated to finding digital solutions for the sector, have recently been organized around two main themes of interest:

- o Business continuity in the tourism sector: aiming at finding solutions to restart tourism operations; solutions to ensure a responsible and safe tourism experience (e.g., in the Covid 19 years, minimizing contact between tourists by digitizing guest services); solutions to create trust and security for travelers.

- o New sustainable business models: rethinking current business models and identifying new ideas for creating value concerning tourism (e.g., thinking about new communication campaigns for potential tourists).

During the pandemic years, several hackathons aimed at the tourism sector were organized, which made use of digital tools and managed the work online.

Many other initiatives concerned the search for solutions to relaunch the sector, which has been deeply affected by the Covid 19 pandemic, particularly the adoption of new management methods capable of ensuring the safety of tourists throughout the entire tourism process.

Below is an example of the hackathon publicity concerning the project to relaunch tourism in Basilicata, from which the above themes can be detected. From the image below, it is possible to trace the ten issues for which the most suitable solution was sought. These included sustainable solutions for the sector, rethinking spaces, and operating processes in terms of values. This Hackathon was organized by the University of Basilicata, confirming the scientific nature of the tool, and the participation was open to teachers, students, sector operators, legal experts, and others. The organizers highly appreciated the results, who drew up a final report from which the final decisions were taken.

Fig. 2.7.: The tourism hackathon of the University of Basilicata

48 ORE NO STOP PER TRASFORMARE LE OPPORTUNITÀ IN SOLUZIONI SPERIMENTATE E VALIDATE, PRONTE PER ESSERE IMPLEMENTATE DAGLI OPERATORI DEL SETTORE.

MENTOR, DOCENTI, ESPERTI, TECNICI, OPERATORI TURISTICI, IMPRENDITORI, STUDENTI, APPASSIONATI, TURISTI, A LAVORO INSIEME PER IL RILANCIO DEL TURISMO LUCANO!

Avete un'idea innovativa per il turismo lucano?

ISCRIVITI ENTRO IL 31 Maggio

Pensate di avere la soluzione ai problemi degli operatori turistici lucani?

48 ORE PER PROPORRE AGLI ATTORI DELL'ECOSISTEMA TURISTICO LUCANO POSSIBILI SOLUZIONI IN RISPOSTA ALLE SFIDE INDIVIDUATE NELLA FASE 1 DEL TRANSFORMALAB E PUBBLICATE NEL REPORT "LE SFIDE DEL TURISMO LUCANO PER DISEGNARE UN NUOVO FUTURO DI SUCCESSO"

Vai al Report

#1	COMPENDERE L'EVOLUZIONE DEL CONTESTO OPERATIVO E NOMINATIVO A SUPPORTO DELLE DECISIONI	#2	COMPENDERE LA NUOVA DOMANDA DI TURISMO DEFINENDO IL PROFILO DEL TURISTA TIPO
#3	CONVOGLIERE LE COMUNITÀ LOCALI PER GARANTIRE ACCOGLIENZA E UN'AMBIENTE NON OSTILE A TURISTI E OPERATORI	#4	COMPENDERE COME GESTIRE IL LIVELLO DI SICUREZZA NEI LUOGHI DI LAVORO
#5	Sviluppare approcci, processi e modalità operative orientati al valore del servizio turistico	#6	Ripensare l'offerta turistica immaginando il servizio turistico puntando al benessere
#7	Ripensare la proposta di valore e adottare strategie per una comunicazione più efficace	#8	Ri-definire il modello di gestione economico-finanziario per la sostenibilità
#9	Ripensare gli spazi ed il design degli ambienti	#10	Ricostruire l'ecosistema con nuove logiche relazionali di collaborazione e co-progettazione

Source: Transformalab

One of the critical aspects of hackathons is to expose a problem to people who may only be interested in the final prize. Tourism hackathons are more exposed to this risk than others since the winners are often rewarded with stays in tourist areas, which induces even inexperienced people to apply. This makes the selection phase of hackathons organized in the tourism sector particularly critical. Although hackathons are opportunities for companies to solve problems in various fields and meet highly specialized people directly, they can also be inconclusive or counterproductive, especially when one considers that sensitive data may be released to participants who interpret it in an inappropriate way.

For hackathons to be productive, they must be built on a specific request by highlighting the most complex aspects to anticipate the self-assessment of competencies. Also, the prizes offered in the participant search phase should be less exalted than the results sought.

2.5.1. Hackathon: a versatile instrument

In the light of the above, it is easy to conclude that the hackathons tool is versatile support used in various fields.

Regarding innovation dynamics, hackathons seem to provide valuable support as they are suitable for start-uppers intending to launch an idea and for corporations intending to innovate. It is an opportunity to see their projects come to fruition in a

shorter timeframe for the former. With lower initial investments, thanks to the possible support of the prizes received. For corporations, it is an additional and cost-effective way to strengthen the innovation management process of their company. Given the very nature of innovation, which requires ideas and creative minds, hackathons seem to embody the most appropriate hub, as a place to exchange views, experiences and potentially experiment.

In the tourism sector, they are ideally suited to provide solutions for making such innovations sustainable and act as tools to support sustainability. They constitute projects that can be replicated without the risk of destroying resources, impacting the environment, or causing negative economic externalities. For these reasons, hackathons can be used as tools to be used regularly in companies and, in particular, in those in the tourism sector, which have many types of offers, all linked together by interactive activities. These characteristics are a fundamental reason to believe that in the future, hackathons could be the viaticum for suggesting innovative ideas in the tourism sector, which is called upon to rethink itself following the pandemic impact. Innovation understood as the evolution of the tourism sector requires creative solutions capable of suggesting the use of digital tools, and this is well combined with a hackathon which, if composed of experts in the tourism sector and young IT enthusiasts, is able to coordinate the debate work in such a way as to direct it towards currently necessary solutions. Hackathons, in fact, in the light of what has been worked out so far, prove to be events that are not only suitable for innovative purposes but also have the potential to create unthinkable solutions.

Hack for travel, for example, a hackathon event held entirely online, revealed, more than others, its creative and innovative potential, showing itself a sustainable tool capable of finding socially sustainable solutions at a time of deep crisis in the tourism sector.

CHAPTER III

AN INNOVATIVE APPROACH TO SUSTAINABLE DEVELOPMENT: HACK FOR TRAVEL

3.1. Introduction

Abstract

This study aims to explore how Hack for Travel, a hackathon held entirely online at the turn of April and May 2020, supported the tourism community in response to the crisis led by Covid-19, proving to be a powerful instrument for successful co-creation of value by industry stakeholders. Given the singularity of the format of the event, the exceptional circumstances in which it took place, and the scarcity of information in previous literature in considering hackathons as tools to support the social pillar of sustainability, the thesis uses a qualitative approach, i.e., the descriptive analysis of a single case study: Hack for Travel. With a focus on the sustainable aspects of Hack for Travel, the dissertation introduces hackathons as a tool for the participatory creation of value for the stakeholders of the sector. In addition to this, the thesis will highlight other relevant aspects regarding sustainability developed through the event.

Research Design

3.1.1. Methodology

Given the singularity of the format of the event, the exceptional circumstances in which it took place, and the scarcity of information in previous literature in considering hackathons as tools to support the social pillar of sustainability, the dissertation uses a qualitative approach, i.e., the descriptive analysis of a single case study: Hack for Travel.

The object of the dissertation is the tourism industry, with a focus on the sustainability issue. In recent year, it is often discussed about sustainable tourism, referring with this term to "tourism that takes full account of its current and future, economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities" (World Tourism Organization). The research will focus on the second and less studied pillar, the social one. In this sense, the aim is to demonstrate how hackathons are beneficial to stakeholders'

engagement and co-creation of shared value (Pucci, T, et al., 2020). Subsequently, I will examine Hack for Travel as an instrument for serving the environmental and economic pillars of sustainability. In conclusion, the research highlights the ethical implications of the event organization, given the circumstances in which it took place.

I selected Hack for Travel since it can be considered a critical and extreme case (Eisenhardt, K. M, 1989, Pratt, J., 2009) concerning the academic goals of the thesis, providing a clear picture of sustainable development. Hack for Travel is a hackathon held entirely online at the turn of April and May 2020 that supported the tourism community in response to the crisis led by Covid-19, proving to be a powerful instrument for successful co-creation of value by industry stakeholders. Each category of actors benefited from the organization of this event, strengthening their position within the sector. We analyzed the triangulation of both primary and secondary data provided by different sources.

3.1.2. Data Collection

We collected data between January and March 2020. The data sources are divided into three groups, i) event website, ii) articles and letters accounts, and iii) interviews.

First, information was collected from the official online channels of the event, all available online. Hack for Travel website was examined to gain a broad overview of the event's regulations, main prizes, and actors involved.

Second, secondary data was collected by examining the letters accounts provided on Sole 24 Ore's official blog, Novà (vincenzomoretti.nova100.ilsole24ore.com). The blog provided letter accounts from different categories of participants that described their experience through their viewpoint and allowed me to understand the event's progress.

These activities culminated in creating a database including ten pages of structured field notes, 110 pages of single-spaced interview transcripts, and other related documents, such as an excel file. The interviews' relevant quotes were divided by subject. This richness of sources has been functional for identifying the main issues and assuring data triangulation (Decrop, A., 1999; Flick, K. et al., 2004).

Articles and letter account allowed to reconstruct the main event actions in very accurate details, identifying the event focus on the post-covid-19 recovery of the sector, aimed to create value for the tourism stakeholders. This collection generated

new data and enabled the verification of existing information from other sources (Layder, D., 1993). Furthermore, personal testimonies extract value from the 'insiders' perspective (Locke, C., 2011). I gained Various viewpoints and confronted each other, obtaining a clear view of the knowledge created and shared during the event.

Finally, the semi-structured interviews with key informants allowed us to cover the specific list of topic areas, connecting analytical categories with respondents' experiences (Gephart, R. P., 2004). In detail, interviews provided conceptual insights that helped link the theoretical concepts about stakeholder engagement, multistakeholder decision-making, and value co-creation with the case analyzed (Gephart, R. P., 2004). This approach made us able to clarify some of the vague concepts at the beginning of the data collection, sometimes bringing new activities that had not been considered previously (Flick et al., 2004). Therefore, the triangulation between these different data sources allowed us to develop a robust and reliable analysis (Decrop, A., 1999; Flick, K. et al., 2004).

Event website

I started by collecting information from Hack for Travel website that the organizers created and provided helpful information to understand the competition regulations and all the partners that contributed to the event's participants. Moreover, it provides all the prizes and winning final teams, each with its own YouTube video pitch and project presentation.

Articles and letters accounts

Through the Sole24Ore Novà blog, I accessed more than 30 letters written by the participants, organizers, and mentors, describing the experience, each from a different viewpoint. The blog provided pictures of the online event that give a visual description of Hack for Travel unfolding.

Semi-structured interviews

I collected primary data via google meet online interviews in February - March 2021. We interviewed ten of the main actors involved in the event organization and development, aiming to provide a 360 degrees perspective on the different event phases, the various category of the actor involved, and the resources and skills

needed. Moreover, during the interviews, we discussed the reasons that pushed the organizers to build the event and the value created (Eisenhardt, K. M, 1989, Pratt, J., 2009). The semi-structured interviews were presented, introducing the general aim of the study without making presumptions on the topic. In this way, we encouraged interviewees to talk freely about the aspects they thought to be more relevant.

The described data is classified in the following table (Fig.3.1)

Fig. 3.1.: *Data collection and description*

<i>Category</i>	<i>Amount of classified Data</i>	
Interviews	10	<i>For a total amount of circa 9 hours</i>
Articles and letters	35	<i>Collected from Sole24Ore Blog: <u>Novà</u></i>
Websites	4	<i>The Official even website, and the organizing companies' official websites</i>
Videos	15	<i>Finalists video pitches</i>
Relevant quotes	72	<i>66 of which used for sustainability analysis, while the remaining for the organizational part</i>

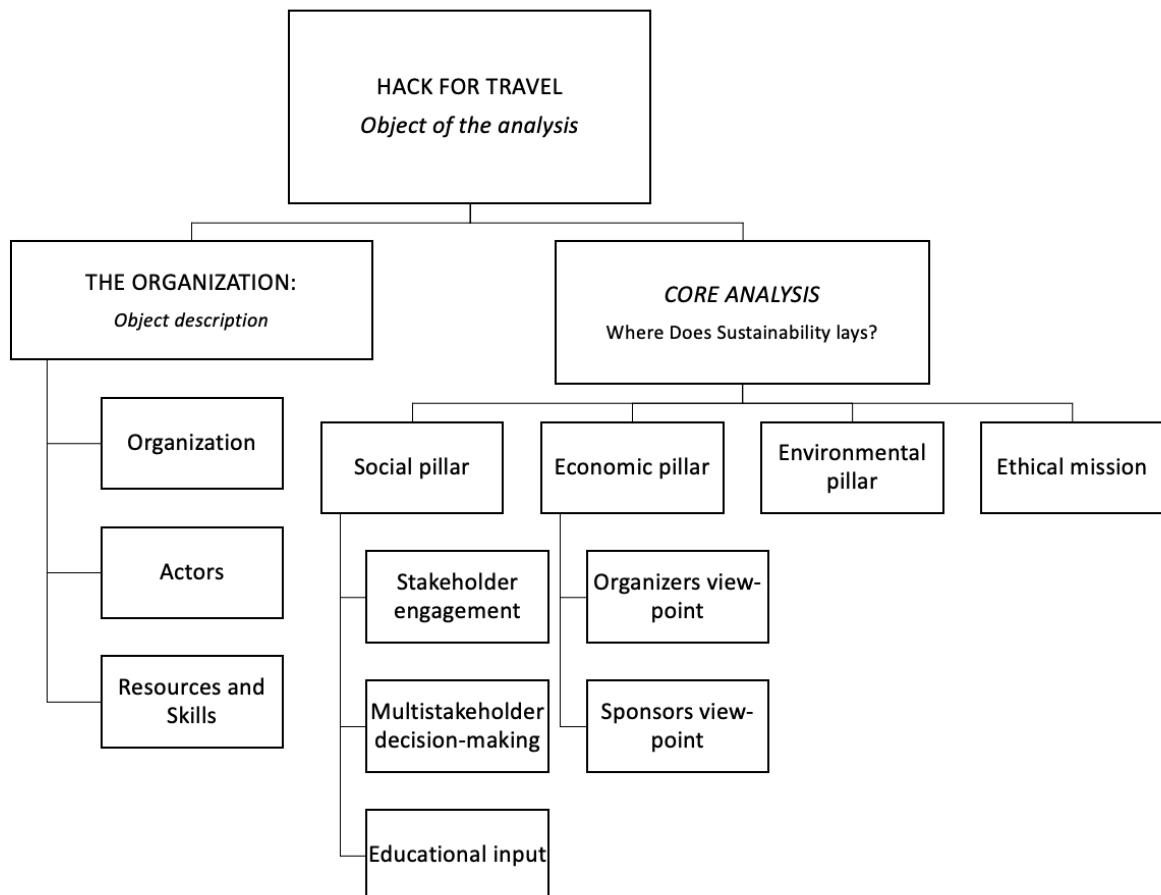
Source: Author elaboration

3.1.3 Data analysis

I based the research results on the comparative analysis approach (Dyer, J., Nobeoka, K., 2000). This methodology suits multifaceted phenomena (Elo, S., Kyngäs, H., 2008). Each component of our data represents a dimension achieved by Hack for Travel, emerging from each of the data sources analyzed. I compared the categories and aggregated them into two macro-areas, the first related to the

organization part, the second to sustainability aspects. The following table illustrates the duplicity and the central objectives of the analysis (Fig. 3.2).

Fig. 3.2.: Analysis objectives graphical illustration



Source: Author elaboration

In the second part, the comparative analysis allowed me to group the activities into four categories, developed by constantly associating the activities into our theoretical framework.

This process was reiterated until theoretical saturation was reached. The categorization is based on the existing literature about the three pillars of sustainability and ethical aspects. I focused on the social pillar concerning stakeholder engagement, multistakeholder decision making, value co-creation, and capture. At the end of the process, I identified six categories, each linked to one of the four major

areas: sustainability pillars and the last one about ethical implication. The identified categories were, a) stakeholder engagement, b) multistakeholder decision-making c) educational input, as for social pillar, d) environmental pillar e) economic pillar, f) ethical mission. For each category, relevant quotes were isolated and used to explain the core of the analysis (Fig. 3.3).

To ensure the quality of the case-study findings, I conducted a between-method data triangulation to capture investigated phenomena from different perspectives (Denzin, N., 2012, Yin, R. K., 1994). This iterative process between theory and evidence led to identifying some distinctive drivers proper to understand the main aspects required to achieve the event's success and create shared value for the stakeholder of the sector, strengthening their existing connections and creating new ones.

Fig. 3.3.: Identified categories and number of isolated quotes

Social pillar			Economic pillar	Environmental pillar	Ethical mission
Stakeholder engagement	Multistakeholder decision making	Educational input			
21	7	15	6	7	10

Source: Author elaboration

3.1.4 Context and setting

Hack for travel is a hackathon held entirely online in April and May 2020, organized by 3 Italy-based tourism-tech companies. It had a duration of 48 hours and was addressed to the tourism industry. The event was organized in reply to the deep crisis brought by Covid-19 and involved more than 1.200 active actors and other thousands that followed the event via live stream. More than 60 teams updated their final projects and had the chance to win the prizes, which had an overall value exceeding euro 20.000.

The event was part of a larger project, United for the Travel Industry, a range of initiatives, including webinars and other forms of support, to bring together and

strengthen the tourism stakeholder network and prepare the industry for the restart as a consequence of the pandemic.

In the following sections, the aspects listed are described in detail. The first part is focused on providing a specific description of how the event proceeded, while the second one is dedicated to the discussion and findings of sustainability aspects.

3.2. The organization

In the previous chapter, I deeply analyzed what hackathons are and which are the main issues related to the organization and development of such events. The same chapter highlights some examples of hackathons organized in different sectors with a particular focus on those held in tourism-related fields. Therefore, this chapter focuses on Hack for Travel, the ultimate goal of the analysis of the work using as reference material the interviews conducted and articles collected from the official channels of the event.

Hack for Travel is a hackathon that aroused attention and curiosity in several respects. Firstly, because it was an event held entirely online, as the circumstances of the moment did not allow otherwise; secondly, due to the context in which it took place, characterized by substantial uncertainty, concern, and fear about the future of an industry, the tourism one, which from one moment to the other was totally wiped out.

The event took place between the end of April and the beginning of May 2020; it lasted 48 hours and attracted more than 1000 individuals, including participants, mentors, organizers, and representatives of the sponsoring companies that provided the prizes. In addition to the active participants, the event involved thousands of viewers who, because the event took place online, followed the Facebook live streams set up by the organizers.

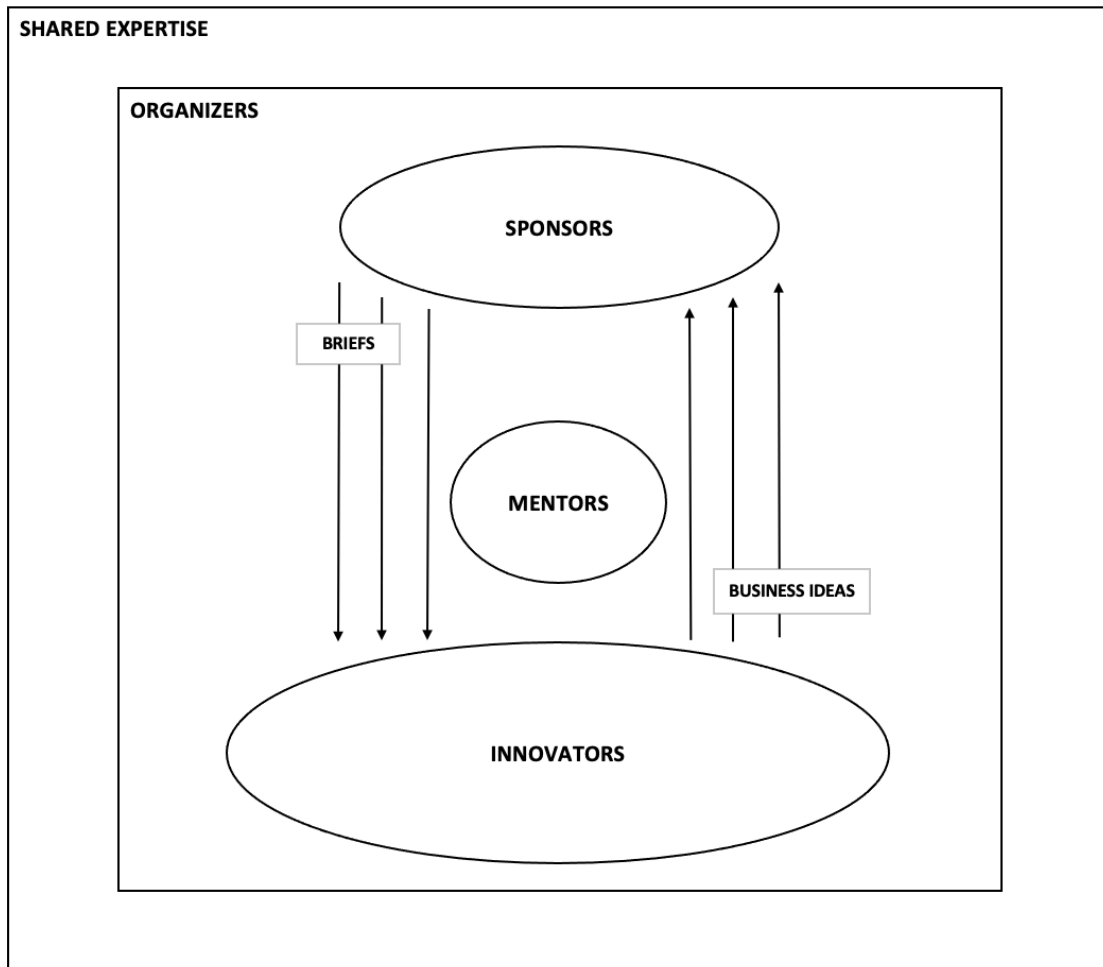
In this paragraph, the event structure is thoroughly examined to provide a clear and defined picture of the phases of Hack for Travel, which are the actors involved and how they are involved. In specific, the interviews pointed out 3 phases: a *pre-event* phase, a crucial phase, the core of *the event*, and a *post-event*, meaning by this all the relationships and collaborations that were established and carried on as a result of Hack for Travel. As far as the subjects are concerned, four main categories of actors active in these phases are analyzed: the Organizers, i.e., the real promoters of the event, those who conceived it; the participants, who will be referred to as the

Innovators, being those who, divided into teams of five or six members each, challenge each other in this marathon of idea creation on a tourism background; the Mentors, key support figures for the innovators during the idea generation process, who are most experienced operators or scholars in the field. The last category of key players is Sponsors, i.e., companies that participate in the event by launching "briefs" and offering prizes, which can be of any nature. The term brief refers to the challenges these companies propose to the innovators, "the problem to which the teams will have to find a solution." Both public institutions, such as ENIT (National Tourism Agency) and Mibact (Ministry for Cultural Heritage and Activities and Tourism) and private companies such as Alpitour, participated in the event as sponsors. Alpitour is an Italian company operating in organized vacations, which has an annual turnover (relative to 2019) of over 1 billion euros. The participation of these high-profile players in the tourism industry made the attractiveness of the event even higher. Once the role and contribution of organizers, innovators, mentors, and sponsors in the various phases is, this first part of the analysis describes the resources and skills needed for the organization and success of each stage of the event.

Fig. 3.4 visually shows the role of the four main categories of actors and their respective interactions. In particular, the graph highlights how Hack for Travel created an environment of knowledge sharing and idea creation. This aspect is explored further in the section on *stakeholder engagement* in the second part of the chapter.

Lastly, the main differences between the online and offline formulas will be highlighted. In support of these considerations, I will provide quotes from the material acquired during the research phase.

Fig. 3.4.: *Hack for Travel* graphical structure



Source: Author elaboration

3.2.1 Pre event phase

The pre-event phase, i.e., the phase that precedes the core of the idea marathon, includes all aspects necessary to gather resources, both human and non-human, to launch the marathon.

- *Actors*

During this phase, the most involved actors are the organizers, precisely three tourism companies with an innovative background activated to set up the event: Data Appeal, Onde Alte, and Destination Makers. The first one, named initially Travel Appeal, was born as an innovative start-up in tourism and bases its business on data collection and feedback economy. Today it has expanded its sphere of operations to more sectors, taking advantage of the benefits of developing and collecting cross-

sector data. On the other hand, Onde Alte is a company that deals with amplifying the ability of companies to simultaneously pursue growth in their economic performance and "positive world change" (www.ondealte.com). Finally, Destination Maker is a highly innovative enterprise that deals with the revaluation of tourist destinations. It is clear that all three of these actors are strongly innovation-oriented, and it couldn't have been otherwise, as the hackathon is an event characterized by innovation, and its organization requires solid technological skills. Furthermore, Hack for Travel was an event held entirely online, thus required even more advanced technical capabilities for its organization.

- Actions

These three organizations came together and, given the critical circumstances that the tourism industry was facing by that time, agreed to stage this online event.

The first key aspect, which is addressed in the pre-event phase, was to attract relevant stakeholders in the tourism sector. This action was of crucial importance for the marathon's success as the involvement of high-profile figures from the industry simultaneously allowed to attract both valuable mentors and innovators dedicated to the industry and innovation. The organizers succeeded in this objective because they were able to involve institutional sponsors such as ENIT and Mibact and private sponsors such as Alpitour, who made themselves available to the tourist community, supporting the event. This first step has granted Hack for Travel visibility, relevance, and depth. Once on the same table, these actors, organizers, and sponsors collectively determined the "briefs" to launch to innovators and the prizes to be awarded to the projects deemed most valuable by the jury. Usually, hackathons have very clear and specific briefs; in Hack for Travel, the organization kept the boundaries of the challenges vast to encourage the ideas' flow in response to the Covid-19 crisis and in sight of future tourism increasingly less contact-based. Therefore, sponsors and organizers established three categories Hospitality, Destinations and DMOs, and Museums and Culture, and a jury of industry experts evaluated the projects. For each of these categories, a prize of 2,000 euros was established, provided by the various sponsors that supported the event, such as Ferrovie Dello Stato Italiane, Aeroporti di Roma, Federazione Turismo Organizzato, and others. In addition to these categories, two special focus prizes were set, awarded by Alpitour and the second by the institutional bodies. The first, of the amount of 10,000 euros was assigned "to the

most innovative idea chosen among the projects of any focus, rewarding originality, technological content and applicability in the extended tourism supply chain" (www.hackfortravel.org); the second awarded by ENIT and Mibact, worth 7,000 euros with the opportunity to implement the idea and collaborate with ENIT for its realization. This award was assigned "to the idea with the greatest potential for communication and promotion of Destination Italy" (www.hackfortravel.org).

Once the categories and prizes were established, the third step consisted in providing the tools necessary to implement Hack for Travel. In this case, since the event was held entirely online, the organizers had to find a platform that corresponded to the marathon's special needs, therefore an instrument that could support a large flow of participants simultaneously. The tool utilized was Slack, a messaging platform that allows team communication to organize their work through specific channels. Thanks to the visibility that the event was gaining, and the number of players involved, the organizers could get the utilization of Slack free of charge, a relevant aspect since Hack for Travel was a zero-cost event.

After the negotiation with Slack, additional relevant actions implemented in this phase were creating a website dedicated to the event and the promotion of the same through various channels, such as social media and word of mouth.

A fifth relevant operation consisted in the collection of registrations and subsequent selection of mentors. In just 24 hours, over 300 applications from experts and tour operators were collected through the website, ensuring their availability to assist teams during the event. The number of candidates to apply for this role was extremely high, to the extent that the organizers had to make a selection among those who had signed up based on their CVs and Linked-in profiles. After selecting 150 of the 300 applicants, the mentors were sorted according to their expertise and availability, and two categories were defined: full-time mentors, who ensured availability to support the groups 24 hours a day for the entire duration of the event, and part-time mentors, who were available for specific teams' requests. Concurrently with mentors' selection, the jury's creation occurred. In particular, two bodies were constituted; the first one consisted of five members and was responsible for awarding the three focus categories; the second one, composed of three experts, was in charge of the two special awards. Jury members featured CEOs & founders of leading tourism companies, including the executive directors of ENIT and Mibact and technical director of Alpitour.

Once the organizers build the scaffolding of Hack for Travel, including mentors, jury, technical support, and the virtual platform on which the event would occur, the organizers activated registration for participants on the official website, which remained active until 24 hours before the commencement of the event. As the number of registrations increased, the organizers sorted the participants. They divided them into teams, assigning each mentor a category of participants, thus creating a layered organizational structure of expertise, as one of the organizers described:

"A vertical structure of organizers, leading full-time mentors, leading team leaders, leading team members, supported by part-time mentors,"

In this phase, the final relevant action was the publication on Slack of the guidelines, instructions, and respective regulations for each participant category.

Fig. 3.5 – *Pre-event actions*



Source: Author elaboration

- ***Resources and skills***

The pre-event phase is unquestionably the one that requires the most effort and attention. In the case of Hack for Travel even more, since it was an online event, the organization had to be punctual and well defined to avoid encountering problems during the marathon, in which the time factor is an essential element.

Among the skills that determined the success of the event were, first and foremost, the technological ones and those concerning deep knowledge of the hackathon formula. As stated at the beginning of this paragraph, the organizing companies, Data Appeal, Onde Alte, and Destination Makers, are characterized by a solid, innovative component and have previous experience in organizing this format. However, Hack for Travel was the very first hackathon to be entirely online. In addition to this, the organizers had an extensive network of knowledge within the tourism industry; thanks to this capability, they could involve many relevant stakeholders, which in

turn increased the attractiveness of the event. Simultaneously, it was of considerable importance that the organizers had a vertical understanding of the industry; thereby, they could engage the proper stakeholders and create an environment of shared knowledge within the event, covering every facet of the tourism industry.

Finally, human capital, motivation, and timing were three primary inputs deployed during this phase. Human capital made it possible to establish a solid organizational structure of the event and manage a very significant flow of individuals. Motivation, it was represented by the awards offered and by the attendance of distinguished and influential figures in the world of tourism. The event's timing was a relevant factor. The historical moment in which it occurred pushed many of the most experienced people in the tourism sector to attend the event, supporting the tourism community. This aspect ensured Hack for Travel to become an event followed by a community of tens of thousands of people.

3.2.2. The event

After gathering all the actors and resources concerning the organization phase, the second stage is the core event. In this phase, the process of innovation, generation, and exchange of ideas begins.

The event started on April 30, 2020, through a Facebook live in which the organizers reiterated and presented the main guidelines that innovators had to follow during the competition.

- Actors

The main actors involved are innovators and mentors. Therefore, this phase is characterized by two relevant interactions: within the team and between teams and t mentors. The former occurs among members of a group who collaborate to develop an idea that impresses the jury. In this regard, the units must be heterogeneous for the final output to be successful. Generally, an optimal team comprises at least one

developer or web designer, a business analyst, and a marketing expert to present a complete prototype to the jury. As confirmed by one of the winning team members:

"Definitely heterogeneous group, if not for expertise field, certainly in skills and experience. Diversity is always an added value as long as you're going in the same direction,"

In Hack for Travel, this aspect was partially respected, as the online mode meant that some of the groups were "pre-constituted," determining in such cases the suboptimal success of the creation process. This aspect is explored further later.

The second meaningful connection established in this phase is between mentors and teams. The former can be defined as "facilitators", i.e., figures who direct the innovators' ideas, either by taking them apart or adjusting their direction. In Hack for Travel, the interaction between these two categories was partly overshadowed by the online mode, as the continuous visual contact that is usually present in physical events was lacking.

- Actions

The event followed a rigorous schedule because time is a critical factor in this phase, as mentioned in the previous paragraph. Its scarcity provides the drive for the creation of innovative ideas.

Following the live broadcast that marked the opening of the event, the innovation process began. The first hours of the competition consisted of team formation and idea selection; in fact, the first step that innovators had to achieve was to deliver the basic concept of their idea and the team's identity by midnight on the first day.

"Participants had until midnight to complete the registration procedures and "register" the team the idea. 90 teams have passed this first milestone and started to refine the project ideas accompanied by mentors, who did an extraordinary job"

So explained one of the organizers in a testimony made to Sole24Ore. By the end of the marathon, the teams had to produce a final output consisting of a document describing the project, a working prototype, and a video pitch, all created and developed within 48 hours. The groups, therefore, had to define cost and revenue

forecasts, establish a brand identity and grow a business model. Also noteworthy was setting a target audience for the project and specifying a name. This is a relevant aspect because there were cases of groups penalized precisely by the lack of marketability of the project name, as pointed out by one of the organizers during the interview:

"There was a project that was changing name because the name was the thing that judges and mentors criticized, they did not change the name during the project, but then I think they did. it versed too much on the professional side, it didn't address the end users, and therefore in that case it was more about working on the brand identity rather than on the core idea."

Many participants signed up as teams while others, unable to join as a group before the competition began, signed up as individuals and subsequently matched up with members within the event, via slack, which made it possible for all participants to be connected.

The competition was marked by frequent checkpoints, about every 8-10 hours, where the groups had to virtually meet the mentors and update them on the development of the idea. "We came out of the checkpoints with our mentor more and more convinced," states one of the innovators. As in the case mentioned, the mentors could approve the idea or reject it entirely if it seemed unconvincing.

During the 48 hours, the teams could request meetings on the appropriate channels, with experts of any kind, ranging from block-chain experts to marketing specialists, to have the required support to implement the project most concretely. There were also specific rooms available for teams to deposit their documents, which were accessible to all team members at any moment.

The deadline for the final output delivery was May 2 at 4 pm, exactly 48 hours after the beginning of the competition.

When the period of 48 hours expired, a Facebook live broadcast was held during which the jury evaluated all the submitted projects.

To ensure a fair evaluation, the jurors during the competition could enter the rooms to verify the teams' work, or while viewing the video pitches, they could ask the mentors for some clarifications on specific points of the projects. The evaluation was based on five criteria: usefulness and value of the project; relevance to the proposed

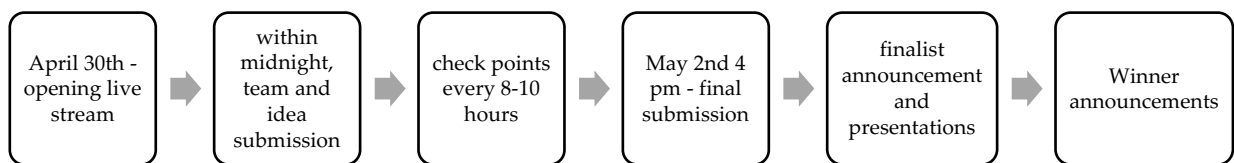
objectives; creativity and innovativeness of the project; clarity and completeness of the project presentation; design/user experience; this category assumes even greater relevance in a tourism context, as analyzed in chapter one of the dissertation, since the visual component is crucial in a sector in which consumers make their choices before viewing the product, relying on the information they receive via websites and related channels.

Due to the high quantity, the projects' evaluation lasted five hours, at the end of which the five finalists for each category were announced.

The fifteen selected finalists presented their projects live to the jury, who had the chance to ask them a series of questions to test the validity and solidity of the project proposed.

Following projects' presentations, five winners were proclaimed, three of whom were awarded the focus prizes in the three categories, Hospitality, DMOs & Destinations, and Museums & Culture. The remaining two were nominated by the special prize jury and awarded with prizes offered by Alpitour and ENIT, and Mibact.

Fig. 3.6.: The event actions



Source: Author elaboration

- *Resources and skills*

The resources and skills needed to carry out the idea creation process can be distinguished by considering the perspectives of the three actors strongly involved in this phase: innovators, mentors and jury.

With regard to the innovators, the leading players in this phase, part of the skills needed, concerned the ability to collaborate and share ideas within a team in a strictly virtual context, adding, therefore, the need to be in possession of strong interactional skills. Nowadays, the ability to collaborate in remote teams is taken for granted as the world of business has adapted to the new requirements dictated by the pandemic. It is necessary, however, to highlight that by the moment in which Hack for Travel

occurred, in the midst of lock-down, speaking about smart-working and team collaboration through virtual channels was highly unconventional, so achieving this success by participants was not a given. These critical issues were added to those that are implicit in hackathons, i.e. the need to develop an idea and implement a working prototype in just 48 hours and the fact that many innovators met just a few hours before the start of the marathon, as confirmed by one innovator

"I found myself in video-call with other guys who were strangers until that moment and who in the next 48 hours would become my constant companions",

The challenge for innovators, then, was not merely the virtual collaboration, but the virtual collaboration with unknown people for 24 hours a day. The event required high levels relational abilities from all innovators. Work organization was another key requirement given the stringent deadlines dictated by Hack for Travel, so described one team member recalling the marathon:

"Organization is key, especially since there are now 30 hours left, "

Turning to the mentor side, other actors of high relevance in this phase, they also found themselves facing a relational challenge, much more complex than the ordinary, as the virtual reality "attenuated" their relationship with the teams and their ability to evaluate and adjust their ideas. In addition, as one of the mentors stated during an interview:

"The fact that teams produce good ideas also depends very much on the work quality of their mentors."

Thus, revealing another skill needed by those in this role, namely the ability to understand the team's idea and point it in the right direction. Finally, the skills required for jury members in Hack for Travel included judging by being able to interpret the final output between the lines, as this took place in a context where physical interaction was lacking. The experience described by the leader of the team that won one of the special prizes proves that these requirements were met by the

jury. In this sense, in fact, the team that arrived among the finalists had technical problems during the presentation, and as the innovator mentioned:

"Although our team during the official presentation, could not present the project except for a few seconds due to problems with the audio, we still came first. So the hackathon is not what you see from the outside, i.e. just the final pitch, actually there are strong organizing and judging skills behind it from the jury and organizers."

Finally, the technical support made available to the event twenty-four hours a day was a key resource for the success of this phase, as participants, mentors and jurors had at their disposal the necessary help to solve any technical issues.

3.2.3. Post-event phase

the role of hackathon as an event at this stage fades, what continues are the relationships created during and through the event. A distinction is made between the short-term post-event, i.e. all those relationships that arise in the immediate post-event period and end within a year, and the long term, which instead refers to the entire network of connections that arises between the various stakeholders involved in the event, which initiate collaborations intended to last without a precise deadline.

- *Actors*

By the time the marathon closes, Hack for Travel's role as an event fades into the background; in fact, the main players who get involved at this time are innovators and sponsor company representatives. In addition, connections arise in which mentors or even the organizers are involved. Because, as pointed out in the previous chapter, one of the possible objectives of hackathons is "recruiting", therefore any subject, from sponsors to organizers, that recognizes capabilities in young innovators, has the possibility to involve them in its activity.

- *Actions*

In this respect, we can identify the actions carried out in this phase in short- and long-term collaborations. Among the first ones, short-term relationships are those established between innovators and mentors, as the former, having the opportunity,

thanks to the hackathon, to relate with experts in the field, can engage in an interaction that may consist of an exchange of e-mails or real physical meetings to collect advice and information on the market dynamics or specific aspects on the functioning of the industry. "Until last month, a group that I took apart as mentors, tried to move forward with the project and we exchanged long emails in which they asked me many questions and suggestions[...]", as stated by one of the mentors, during the interview. Still on the subject of short-term relationships, in Hack for Travel there is the example of the collaboration between Alpitour and *Happy and Safe*, the team that won the prize offered by the latter. As described by the team leader, following the conclusion of the marathon, "Alpitour invested in our idea, providing us with additional resources, to move forward on the project, signing an agreement specifying that our product would be used as a pilot within their ecosystem. Therefore, at the end of the marathon, the innovators were contacted by the representative of the sponsoring company, and, through a relationship which extended over a period of several months, they implemented the idea, transforming it into a product tailored to the needs of the company's clients. In this way Hack for Travel has been a crucial "connector" for the creation of a collaboration between two subjects with the advantage for the young innovators to see their idea realized in a very short time and at zero cost. On the company side, it was a real outsourcing of the research and development function, with very low costs. In this specific case, the team members preferred the "cash now" option, as they were engaged in other long-term projects that existed before Hack for Travel.

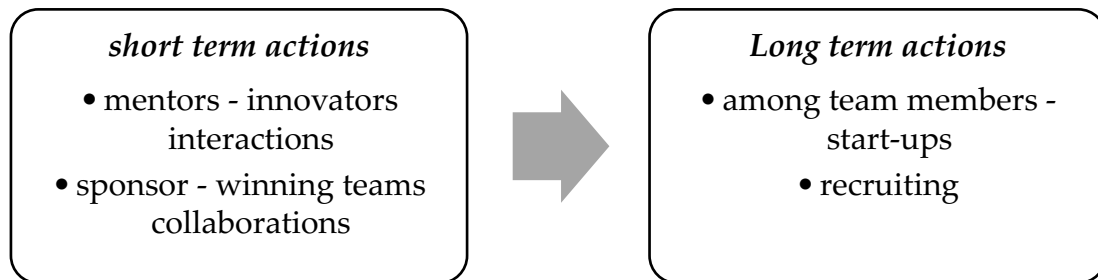
In alternative circumstances to the one just described, the victory, or even the simple cohesion, of a team can determine the creation of a start-up that intends to carry out the idea conceived during the hackathon. In this case we talk about long-term collaborations that are created between team members. "There were guys who met during the hackathon and then became a real start-up," as one of the jury members describe during its interview.

Other types of long-term relationships, however, are created when mentors or organizers, impressed by the qualities and skills of an innovator, decide to involve him in their activities. As previously highlighted, in reference to this it is referred to hackathon as a recruiting tool.

As mentioned by one of mentors:

"Hack for travel and hackathons in general are not just an end themselves but are also stimulus to the creation and management of new start-ups, products and services",

Figure 3.7.: – *Post-event actions*



Source: Author elaboration

- *Resources and skills*

During this phase, what was important was the acquisition of competencies by all the actors involved in Hack for Travel; in fact, a natural environment of sharing of ideas, knowledge, and culture was created, from which everyone could benefit, from the youngest innovators to the senior experts in the field.

In terms of resources instead, the post-hack phase was useful to innovators as they had access to certain services without any cost barrier. An example is Slack, which remained active for months after the hackathon, and many groups kept in touch through these channels exchanging ideas and opinions, all at an accessible cost. In

this regard, we will analyze the advantages and disadvantages of the online format in the next paragraph, one of the main ones being the cost barrier.

Fig. 3.8.: Overview of resources and skills, classified by phase and category of participant

Resources and skills		
Pre-event	The event	Post event
<i>Organizer</i>	<i>Innovators</i>	<i>All actors involved</i>
High tech- capabilities	Ability to collaborated and share ideas within the team	All participants acquired competences and knowledge shared in the event.
Deep knowledge of hackathon format	Strong interactional skills	
Network of industry stakeholders	Organizational skills	
Vertical domain expertise across the industry	<i>Mentors</i>	<i>Innovators</i>
Deep knowledge of the industry and the players	Relational abilities	Hack for Travel facilitated the access to resources abating cost barriers
Motivational capital, motivational capital and timing	Abilities to understand the team's idea	
	<i>Jury</i>	
	Deep evaluation skills	

Source: Author elaboration

3.2.4. Online format: advantages and disadvantages

One of the significant characteristics of Hack for Travel was the mode in which it took place: online. The circumstances of the moment did not allow otherwise, but at the same time, it can be affirmed that it was the same circumstances that determined its existence.

It is important to emphasize that Hack for Travel has been a successful event in several aspects. The first and most important is that it was a success in terms of emotional support and more, which has provided to an industry that is still struggling for a restart among many difficulties and changes in the way of delivering its product. Many operators had to radically reconfigure their activities, adapting them to a new pandemic and post-pandemic needs.

As for the advantages and disadvantages of the online format, there are different opinions based on the various points of view. Thus, where innovators have gained, mentors and jury have lost, and conversely.

The main disadvantages of the online format can be found in these points:

- A first aspect is undoubtedly the lack of the visual aspect from the mentors and even the jurors' perspectives. Many 'complained' about the lack of physical contact, as the online format has definitely and in some respects diverted interaction. Indeed, in offline hackathons, the jury and mentor are used to pass between the tables and " personally approach" the teams' work, interacting with them and, in many cases, establishing connections based on the empathy of the moment. In physical events, contact is more immediate, allowing *"an exchange of glances, on video, it is not like sitting next to each other. then there is staying awake together"*, as one of the organizers and mentors responsible describes it.
- Strongly related to the first, a second aspect concerns a deficiency from the relational perspective. In this case, reference is made to those relationships that arise through 'informal channels,' thus also between mentors themselves or mentors and representatives of sponsor companies. As many explained during the interviews, 'the chat over coffee' was lacking for many.
- A third difficulty that arises in organizing an online event is from an organizational point of view. While the physical hackathon allows for improvisation in case of dysfunctionalities, this is not allowed as improvisation does not exist in the online format. The organization must be impeccable.
- Some mentors also complained that the online format, having broken down physical and cost barriers, allowed participation by a wide audience and did not allow for proper screening of participants. Some mentors felt that groups had signed up with the sole purpose of winning the prize money, not approaching the challenge with the seriousness it deserved.
- A further aspect is related to the final ceremony. Indeed, some interviewees also resented the awards ceremony, which lost some of its adrenaline and emotional character, although it was well organized and successful.
- One last relevant difference and disadvantage of the online format was the role of the mentors. In fact, in the case of physical events, each mentor usually is assigned two or more groups to follow for the entire duration of the marathon. In Hack for Travel, to make the organization more effective,

mentors were divided by expertise and questioned at the request of the teams and through the various checkpoints on matters relating to their reference field. This aspect on the side of mentor-group interaction is certainly a disadvantage of the online format.

Following these considerations, the next points will instead represent the main advantages of the online format:

- A first aspect from the innovators' side was that the online format allowed them to optimize the minimal time available. In addition, not being in a chaotic space allowed them to produce 48 consecutive hours without distraction.
- Another relevant aspect of the online format is the removal of barriers related to costs, both concerning creating the place where to carry out the event. In Hack for Travel, given the exceptionality of the moment, this aspect was free. Additionally, the online format allowed many participants from different Italian regions to attend the event. In normal conditions, they probably could not attend the event if not at a high cost.
- On the mentors' side, the online format allowed them to provide more accurate and precise information to the groups. This is because by participating from their PCs, they had all the necessary resources at their fingertips. This is also how one of the mentors describes it: "You can also be more precise concerning some of the questions they ask you so that you can be very punctual."
- One last but critical aspect is space barrier removal. It was certainly an advantage in attracting prominent sponsors and mentors, as many leading companies in tourism were attending because participating in the online format was less "onerous" in terms of time for many.

This last aspect is particularly crucial given a future in which, if not entirely online, many events will be held in hybrid form, allowing prominent figures and representatives of companies to participate simply from their office. Hack for Travel was a successful example demonstrating that an online event is exceptionally performing from many perspectives if punctually organized.

The table below provides a clear description of the above discussion.

Fig. 3.9.: Advantages and Disadvantage of the online format

<i>Advantages</i>	<i>Disadvantages</i>
<i>Time optimization:</i> not being in a chaotic space allowed them to produce 48 consecutive hours	<i>Lack of visuals and physical contact :</i> team-mentors interaction was diverted. This aspect is linked to the fact that Awarding ceremony loses its character, fewer emotions, and adrenaline;
<i>No travel-related costs:</i> every actor could participate from everywhere, so no costs linked to movement	<i>Relational persepective:</i> harder to build relationships through informal channels;
<i>More accurate informations:</i> participating from their PCs mentor could be very accurate when leading teams	<i>The Organization needs to be impeccable:</i> no improvisation possible in case of technical disfunctionalities
<i>Less organizations costs:</i> no catering and renting spaces costs, Hack for Travel was a cost-free event	<i>Less participant screening:</i> due to the cost and space barriers' abatement
<i>Easier to attract relevant actors:</i> Participating in the online format is less "onerous" in terms of time. This allows relevant actors to attend the event.	<i>Mentors assigned by expertise and not by group:</i> this leads to weaker bonds created with the teams

Source: Author elaboration

3.2.5. Limits and criticalities

Despite the success of the event, there were some limitations and critical issues encountered by various actors. Some interviewed mentors denounced that some of the teams were "pre-constituted," presenting pre-made projects and not grasping the true essence of the hackathon, which is precisely that of generating innovation in an environment stimulated by the combination of heterogeneous and unknown personalities. As described by one of the mentors:

"I had the impression that some of the teams went straight ahead because they have already prepared the project."

However, others among the interviewees criticized the groups because many ideas focused on the pandemic side when the briefs referred to a much broader horizon. The goal was to find a visionary idea, which would provide solutions to problems born in the pandemic and especially in the perspective of future recovery of the sector, taking into account the changes that this was determining.

Regarding team members, however, some have pointed out that the communication channels between innovators and mentors were loosely organized since the official channel for sharing files and documents was Slack. However, for the rest, it was up to the teams to arrange the internal communication.

As previously stated, Hack for Travel was an event organized in response to a crisis led by Covid-19, the briefs launched by the companies were extensive. *"To the most innovative chosen among the projects of any focus, rewarding originality, technological content and applicability in the extended tourism supply chain"* (Alpitour brief, www.hackfortravel.org); this meant that the ideas generated were less clear and more general. Probably more circumscribed briefs would have led to higher innovation results.

However, Hack for Travel was a hackathon organized to support the industry from a social viewpoint and generate innovative ideas. In this regard, such broad briefs were in some ways determined by an extensive crisis that the industry has experienced. Concerning this aspect, in the following paragraphs, a detailed analysis will be carried out on the benefits that the event has brought regarding sustainability for the tourism sector. This analysis will focus on the social pillar of sustainability, as Hack for Travel has positioned itself as a tool to support a sector in crisis and as a place that encouraged the creation and strengthening of connections between the tourism stakeholders.

3.3. Sustainability in Hack for Travel

After having illustrated the organization of Hack for Travel, giving a clear picture of the event organization, in this second part of the analysis, the focus is on the sustainability aspects that the event generated from various points of view. It demonstrates how Hack for Travel became a functional tool for the stakeholder engagement process, whose benefits both the organizers and all the other actors involved, from private companies to institutional ones and from large to small tour operators. Subsequently, reiteratively concerning what is defined as the social pillar

of sustainability, Hack for Travel is analyzed as a tool for multi-stakeholder decision-making approach and educational input on corporate culture. These aspects emerge from the analysis of the information obtained from the interviews. In addition, the economic and environmental pillars, which Hack for Travel also achieved, are analyzed. Finally, the last paragraph is dedicated to the ethical implications that the event had, as one of the motivations that drove the organization of Hack for Travel in response to the Covid-19 crisis.

3.3.1. Social pillar

Stakeholder engagement

In the first chapter of the dissertation, the Stakeholder Theory (Freeman, E., 1984) is illustrated as the studies that classify and distinguish the various stakeholders' categories and states that the pursuit of the latter's objectives is beneficial to all the actors involved in it the process. Among the ways that a company can use to implement this theory there is Stakeholder Engagement. This is the process that aims to involve its stakeholders positively within its business (Greewood, M., 2007), analyzing how the actions of the company can influence these subjects and how these subjects' actions influence the company. The advantage of this process is not only to be found in the increase or achievement of higher profits, but it can result in the achievement of social welfare on a large scale, for example, shared by an entire sector. This welfare is obtained thanks to creating a solid stakeholder network that first strengthens and affirms the company's position; secondly, it determines the activation of new links between the various actors in the sector. It is precise regarding these concepts that we discuss the social pillar of sustainability with Hack for Travel. Several studies on this topic show that companies that pursue stakeholder engagement perform better than others (Caputo, F., Evangelista, F., Russo, G., 2018). Other studies demonstrate that recognizing and engaging stakeholders can influence the company's position within the industry and how this interaction between them can lead to the co-creation of shared value (Pera, R., Occhiocupo, N., Clarke, J., 2016; Vargo, S. L., Lusch, R. F., 2008). More lacking, however, is the doctrine regarding the study of hackathons concerning this phenomenon, and in the broader sense, as tools to support the social pillar.

What emerges from the Hack for Travel study is how this event successfully created a network within a sector, the tourism one, that in Italy has always been

characterized by solid fractionalization. As one of the organizers and supervisor mentor states:

"Tourism in Italy has always been fragmented, so this ability to keep together and put together the various pieces is something is important."

The uniqueness of the analysis is that it has as its center, thus as a driver of the stakeholder engagement process, an event that happened outside the company boundaries. Specifically on a macro level, resulting in the involvement of stakeholders on all layers of the tourism industry. As one of the mentors explains:

"[Hack for Travel] aggregated the entire Italian tourism-related community, business experts, start-ups, university professors."

The first and essential aspect to be analyzed, which took place through Hack for Travel, was creating a place to exchange and share ideas and knowledge. A multitude of actors interacted, generating shared value within the entire industry. This is how one of the innovators describes it:

"A true ecosystem of knowledge and idea-sharing was generated that led to the creation of added value for all participants."

Thus, the event set the resources and expertise necessary for the creation of an environment of knowledge exchange, as it provided the opportunity for any actor in the field to engage with other operators, experts in the area, or academics, comparing their vision with others, enriching their knowledge and perspectives. As one of the mentors describes:

"An event where the actors have the opportunity to confront each other, you [organizer] provide them with the tools and the methodological approach to compose their disagreements and bridge the gaps between the different positions."

This led to the creation of an actual 'place' of exchange, an 'Agora' of ideas and knowledge that did not end in 48 hours but continued over time, as the Slack channels remained active for months after the end of the event:

"One of the goals in terms of this Agora [marketplace for exchanging opinions and sharing ideas], is networking and making connections, and there is probably also the assumption that it would not end within the 36 hours but would remain a place of confrontation."

Thus, in broader terms, Hack for Travel was the starting point for creating a network that then went on by itself. In that, links were established personally between those actors who benefited from their own businesses from starting collaborations. As mentioned by one of the mentors:

"This networking, this getting together has had a continuity [...], probably with more individual aspects, maybe between individual companies that have known each other, between mentors and start-ups that were a bit more effective."

As described by the interviewees, Hack for Travel was a tool for creating and strengthening a network involving all stakeholders in the tourism sector because participation and membership in the event were accessible to all positions. As described in the first part of the chapter, companies such as Aeroporti di Roma and Ferrovie di Stato took part as partners, figures that can therefore be traced back to the stakeholders in the tourism sector relating to transport (UNWTO; fig. 1.5 chapter 1). Directors of hotel chains also participated as mentors, figures that can therefore be identified as stakeholders relating to infrastructure in the tourism sector; giants such as ENIT and MIBACT, hence state bodies, and so on. Hack for Travel was a marketplace that involved and put together countless players of all kinds, sizes, and expertise. As explained by one of the mentors:

"It's a marathon of ideas that serves to put fairly different figures on the same table to work."

The same mentor then added:

"1200 people put together who could continue to exchange ideas even after the event was over. The development of a community of diverse stakeholders".

Following these affirmations that recognize in Hack for Travel the configuration of a place of exchange and sharing of ideas and knowledge from which all stakeholders in the sector have benefited, we will deepen how each of these categories has helped from the created network to the event. Therefore, it is crucial to analyze the benefits in terms of stakeholder engagement generated for the event organizers; secondly, for those who benefited as participants to the marathon, hence the innovators; finally, for sponsors and mentors.

- Organizers

The first aspect of being analyzed is the one concerning the implications generated in favor of the companies that organized the event, the three companies operating in the tourism sector with a high innovative background, mentioned in the previous paragraphs, Onde Alte, Destination Makers, and Data Appeal. By activating to organize the event, these companies placed themselves at the center of a network, strengthening and affirming their position as innovators concerning all the stakeholders in the sector.

"The organizers created shared value by placing themselves at the center of a network. So, they created value for both themselves and others."

One of the innovators explains it during the interview, underlining that companies adopting a socially sustainable behavior, as they were serving a sector that needed intervention in terms of social support, strengthened their role within the industry. The organizers adopting this behavior that we define as "socially sustainable" involved many stakeholders in their network (Pucci, T., et al., 2020).

In particular, the organizers from this network strengthen their position with respect to two categories of stakeholders: that of sponsor companies and innovators. In the first place, the organizers established a connection with private companies, such as Alpitour, with whom they cooperated for the realization of some aspects of the event. Secondly, with public institutions, such as the Italian ministries of tourism

and culture (ENIT and Mibact), ensure recognition by them and open the possibility of future collaborations. This concept is also underlined by one of the mentors of the event:

"Then there was ENIT that participated, and perhaps you, being the organizer [being Data Appeal], collaborating with this giant, the next month you will collaborate again for another project."

In this case, the organizer strengthened its network of stakeholders, including a giant such as ENIT, thus promoting a value then shared by both. For the latter, as a representative of tourism in Italy, it provides support to give a boost to the recovery. On the other hand, Data Appeal and the other organizers obtain value because they strengthen their connection with these important players in the sector, which will have returns of any kind for the companies in the future. In addition, since the organizers are companies that operate in the tourism sector and have a good part of their revenue coming from this, the sector's recovery reflects positively on the trend of their business. This last aspect is explained in the paragraph on the economic pillar achieved with Hack for Travel.

Next, the organizers positioned themselves prominently concerning all the innovators who attended the event, showing themselves as successful companies who, at a time of unprecedented crisis in the tourism industry, took action to find solutions. In this case, they increased their notoriety by getting noticed by a large audience of future and already active tourism operators. About 1000 participants attended Hack for Travel, so as many potentials and/or dormant players that the organizing companies can activate when needed in the future. As one of the mentor states:

"It's about people who if participated to a tourism's hackathon, or they are already tourism operators or are interested in becoming one someday. Thus, when that operator reopens his hotel in the future will remember that Data Appeal [and other organizers] provides tools for analyzing data and will be his first choice for any advisor needed regarding his activity. Which can be a hotel, as I said, or any other related to tourism. So, it's all a chain."

- *Innovators*

From the innovators' point of view, Hack for Travel was a highly beneficial event. It provided them with a place to exchange knowledge and ideas from which they could benefit in terms of network creation and skill acquisition. This second aspect is analyzed in the next section when we discuss Hack for Travel as a tool to support educational input. However, the first issue is strongly related to the process of stakeholder engagement concerning the definition of (Manetti, G., 2011). As the event has involved these actors in business management, information sharing placed them at the center of a dialogue between different actors and created a model of mutual responsibility and value creation. Innovators, therefore, also had the opportunity to connect with the 'Bigs' in the industry. As one of the organizers and lead mentors explains:

"Those who wanted and had the ability got in touch with the big players in the tourism industry, some even on an international level."

Those who were able to seize and exploit the opportunities offered by the event strengthened their network of stakeholders and knowledge. As the organizer himself points out:

"The network of relationships you create becomes positive for the industry and on a personal, professional level."

In addition, many of the innovators were youth about to enter the business world. Hack for Travel provided them with the opportunity to highlight themselves and connect with many important figures in the industry, such as mentors, i.e., senior operators who are experts in the field or even more significant players, as sponsors. This is how one of the mentors who participated in the event emphasized during an interview held in February:

"Up until last month, a group I followed, outside of the hackathon, tried to move forward, and we exchanged emails. So that kind of interaction was appreciated."

This statement proves how Hack for Travel placed the innovators within a framework of actors of all kinds, from which they were able to benefit in terms of value capture.

Another example that reinforces this concept is that of the collaboration born between Alpitour and Happy and Safe, described in the previous paragraphs. A team of young engineers, whose project won the special prize, started a collaboration with the same company at the end of the marathon. As described by the team leader:

"After the end of the event, we began collaborating with the company that awarded us (Alpitour), they invested in our business idea, providing us with the resources to align our project with their type of product and internalize it."

In this concrete case, Hack for Travel's contribution was to connect two categories of stakeholders within the industry that otherwise would not have come into contact. As evident from that example and previously explained, Hack for Travel's role as an event fades away after the 48 hours expire. Still, the ties that were created continue; in some cases, as in this one, they begin by the moment the event closes. Thus explains one of the organizers, CEO, and Founder of Data Appeal:

"Hack For Travel also provided an opportunity to bring supply and demand together, which then go on their own."

In conclusion, in the bigger picture, Hack for Travel proved to be a tool that enabled the creation of a place of exchange, where the boundaries of the involved companies blurred. Therefore, skills and knowledge were freely available to all participants, even to the innovators themselves. This aspect has strong relevance in terms of value sharing for these subjects thanks to Hack for Travel confronted with such business realities- Concurrently, sponsors and mentors benefited from this encounter since they faced fresher mindsets and ideas. This second aspect is discussed in more detail in the next section.

- Mentors and Sponsors

The third parties that benefited from the network of actors generated by Hack for Travel were mentors and sponsors, with the characteristic that in these categories of

stakeholders, the stakeholder engagement process was also instrumental in innovation.

The interaction between the various stakeholders is crucial for the generation of innovative ideas, which benefit the social welfare of a community (Ayuso, S., Rodriguez, M. A., Garcia Castro, R., Arino, M. A., 2011), which in this case was the tourism community. In addition, as highlighted by various studies, stakeholder engagement is essential in innovative processes. The encounter between companies, institutions, and scholars is critical in developing creative ideas and creating shared value (Gould, R., L., 2012). Hack for Travel innovation is an implicit trait that accompanies the event throughout its extension as hackathons are open innovation platforms. The exchange and sharing of knowledge generate ideas, which in Hack for Travel were oriented to ensure the social welfare of an entire sector.

One of the mentors, who in his career attended this type of event both as an innovator and as a mentor, pointed out that the value for the latter comes from the clash of their ideas with those of others, and the value lies in the way and context in which this clash takes place:

"Most of the relationships and projects I've personally developed over the years have come from attending this type of events. You meet interesting people and share paths and ideas with them."

The same then went on to describe Hack for Travel as:

"An event where new ideas, new thoughts are shared, that brings together resources, skills, that is a kind of "think-bank", where you think and pull something out of that moment."

This testimony shows how in Hack for Travel, stakeholder engagement takes on even more importance, as the innovation process is accentuated by the exchange of ideas between very different personalities, which concerns an entire industry. Thus, describes one of the mentors who was also a member of the jury:

"One of the goals is to bring brilliant minds together because teams are also made up of people who don't know each other [...] they share different experiences."

The direct recipients of the innovation process are mentors and sponsors. The firsts, as they are in close contact with the innovators' work, influence their ideas and are affected by them. The same juror and mentor states:

"One of the groups I was mentoring [...] they opened my mind to so many things I wouldn't have considered yet. [...] e.g., the chatbox is something that I integrated into my hotel following a hackathon".

So, Hack for Travel, and more generally hackathons, are open innovation tools whose essence is based precisely between the engagement of different types of actors, which in this specific case are the stakeholders of the tourism sector. The stakeholder engagement process is the background that stimulates the idea creation.

On the other hand, sponsors are the second recipients of the innovation process. They participate in the event to innovate and thus benefit from the most valuable and marketable ideas. There were cases of hackathons that proved very functional for companies with a solid traditional footprint. They were immersed in a modern information-sharing environment and exchange of ideas that influenced and innovated their way of doing business. A concrete example of this was provided by the mentor himself, who recounted:

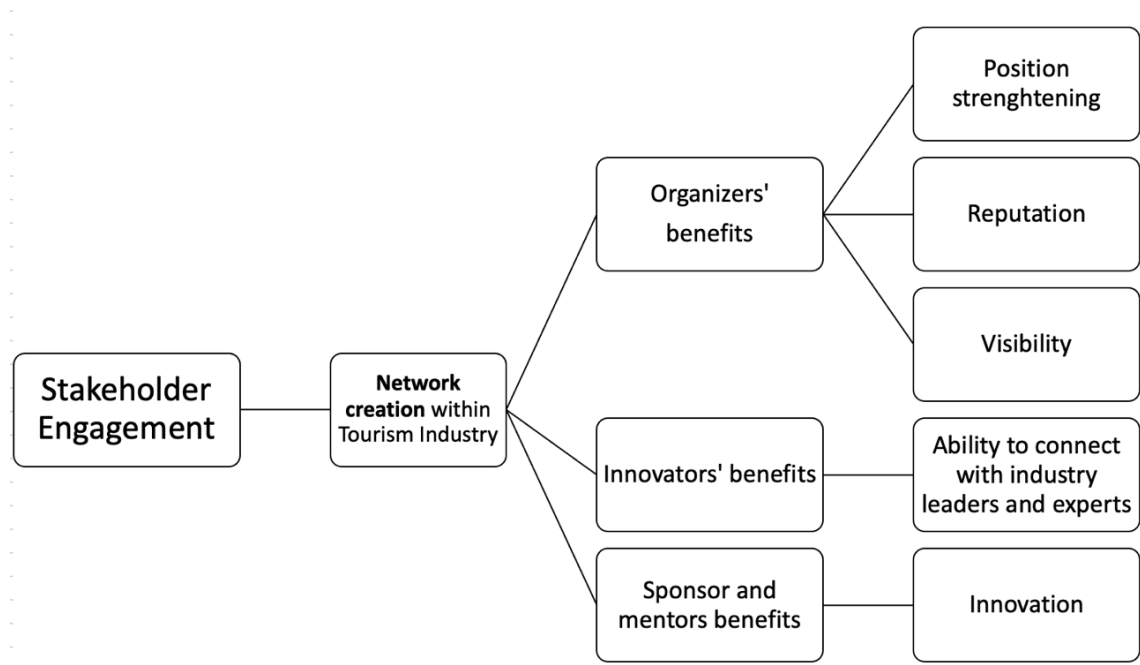
"I remember in a hackathon that Star Hotel, which is a very masterful company, attached to a family, where they change very few things, they were extraordinarily fascinated by what they found there. Meeting different people."

Sometimes, therefore, the involvement of different stakeholders, coming together in one place, whether physical or virtual, allows large companies established in the industry to unlock a new point of view and consequently renew their business.

These implications clarify the Hack for Travel role, and more generally of hackathons held outside the company boundaries, as tools of stakeholder engagement and network creation, with the ultimate result of value creation for all participants, which in this case represent an entire industry. Therefore, the implications of these paragraphs demonstrate how this formula can be used by the companies organizing it as a tool to strengthen social welfare from which an entire sector benefit. The

concepts described above are graphically illustrated in the following diagram (Fig. 3.10). Specifically, the latter specifies the definition of stakeholder engagement, highlighting and summarizing how the various categories of participants benefited from creating a network within the sector. Specifically, the organizers strengthened their positioning, enhanced their reputation, and gained visibility. Innovators were enabling to establish connections with tourism experts. Sponsors and mentors gained in the innovation side. This scheme is highly relevant because many of the sustainability aspects described in the next section occur because of the creation of this strong network, which included many and varied stakeholders.

Fig. 3.10.: *Stakeholder Engagement*



Source: Author elaboration

Social pillar: Multistakeholder approach

A second but no less important aspect that emerged from the Hack for Travel analysis is the validity of this event as a tool for a multi-stakeholder approach. Specifically, the process that led to creating value came from the collaboration between multiple relevant stakeholders, particularly in the pre-event phase. As one of the innovators also describes:

"The value of hack for travel was to get all the stakeholders together, making decisions together to find solutions [...]"

The participation of multiple stakeholders in the organizational process, first and foremost, makes Hack for Travel a tool for value co-creation within the tourism industry. In the previous section, Hack for Travel was analyzed and demonstrated as an instrument functional to the pursuit of the stakeholder engagement process. In this case, the analysis aims to explain how Hack for Travel was an event that saw, in its creation process, the cohesion of multiple stakeholders, sometimes with very different backgrounds, pursuing a common goal, ultimately generating value that is shared by all. Thus explains one of the mentors:

"I [organizer] together with other players decide to stir the waters to create a sort of shared value."

Hack for Travel is studied as a multi-stakeholder decision-making approach that results in the co-creation of value. In this case, the jointly pursued goal is social, the ultimate goal of supporting the tourism community. One of the jury members explains how the idea to organize the event came from a joint decision:

"[Organizing this event] was an idea that came collectively, various stakeholders involved."

The idea was motivated by the need to pursue a social macro-objective common to the entire sector, which was of utmost importance.

These statements reinforce the thesis that this aspect of Hack for Travel undoubtedly falls under the umbrella of the social pillar of sustainability. The ultimate goal of the various decision-making processes is value co-creation for the entire sector. Several studies propose to analyze the co-creation of value during innovation processes; recently, some of them defined the concept as a collaborative activity in which independent and multiple stakeholders contribute to the innovation process (Kazadi, K., Lievens, A., Mahr, D., 2016). The case under examination shows how the organizers, through the involvement of institutional bodies, activated to pursue common objectives; all this happens on a background with a solid technological footprint that is the hackathon. As one of the mentors stated:

"The value of participated decision-making [of Hack for travel] is certainly worth noting."

He then explained:

"The value of social sustainability in Hack for Travel is that of having taught and involved many operators in this aspect of the participated decision-making process, within teams, but mainly on a wider level among the involved stakeholders, which were not in connection before the event, so an added value".

The mentor, therefore, emphasizes how this participatory decision-making process aimed at the value co-creation is found in two ways: on the one hand, collaboration within the teams, which in any case sees a participatory decision-making process among the various innovators; secondly, and more significantly, from a broader perspective, namely on the of organizational, represented by the collaboration of important stakeholders. Specifically, the three organizing companies and the public bodies were jointly activated to achieve a common goal. As the mentor pointed out, the value of Hack for Travel lies in the fact that is one of the first events to collaboratively involve such diverse and relevant stakeholders in the world of tourism. This is also how another mentor explains it during the interview:

"In the online edition of May, a public institution, that is ENIT, intervened, together with Data Appeal [and the others] and said let's do a hackathon".

Several studies highlight that this type of approach is very effective because the participation of multiple stakeholders results in a relevant confluence of resources (Horn, C., Brem, A., 2013; Hoyer, W., et al, 2010). At the same time, however, other studies explain that such processes can be risky if they result in the emergence of conflicts generated by the divergence of interests and objectives or on the appropriation of the value created (Waligo, V., Clarke, J., Hawkins, R., 2013). In Hack for Travel, such risks were not run because the common objectives that led to the collaboration of the various stakeholders were macro-objectives, whose relevance and priority was vital to the industry at that time. Hence, a conflict between them was not possible. As pointed out by one of the organizers:

"Actors such as ENIT and Alpitour were involved by the urgency to intervene in support of the industry."

Moreover, although all are operating in the tourism sector, the collaborating actors are characterized by enormously different backgrounds with interconnected business objectives and other parts of the tourism value chain. To explain this concept, we can consider the case of ENIT, whose goal is to promote the Italian tourism offer, and Destination Makers, one of the organizing companies, whose goal is to re-evaluate tourist destinations. The recovery of the sector would benefit both, and if the latter recovered, the former would benefit as well.

To sum up, Hack for Travel was functional and also successful as a multi-stakeholder decision-making approach. The next section will explore one last aspect of the social pillar, namely the hackathon as an educational input to participants.

Social pillar: educational input

As anticipated, following the research work done on Hack for Travel, a third aspect related to the social pillar of sustainability arose from the interviews, namely that of the educational input that this event generated. By educational input, we mean, on the one hand, Hack for Travel as a tool to prepare young innovators for the business environment, as one of the organizers describes:

"Young people, often very young, 20-22 years old, who have faced important corporate realities."

On the other hand, there is the sharing of knowledge that leads even senior practitioners, such as mentors, to come up against fresher points of view, which then influence the way they approach their business, as pointed out by one of the mentors:

"Their initiatives that inspire you and leave you with knowledge about business culture."

Summarizing this dual training aspect just described is the statement made by one of the mentors during the interview, who defines Hack for Travel as:

"A powerful clash between the world of work and today's youth."

This theme was anticipated in the paragraph on stakeholder engagement because it is possible to consider educational input due to the sharing of knowledge and exchange of ideas between different stakeholders that takes place within the event. We define it as educational input because on both sides, it is an incipit, an initial push that mentors give to young people who are about to enter the business environment. On the other side, young people present to mentors who are occasionally too immersed in their company to notice the advances that occur in the market.

That's how one of the mentors describes it:

"A lot of young people participated, very well prepared in terms of content; however, there was a lack of professional experience."

This deficiency with which innovators entered was certainly filled within Hack for Travel, one of the mentors stated during an interview about the event:

"It gives you back in three days a little bit of what is the essence of business culture."

The same then also stated:

"The value for me of Hack for Travel lies in training and in increasing both the business culture and the culture related to the evolution of this sector [...], if one has the opportunity to ask the right questions, a type of accurate competence comes out that otherwise, you wouldn't have, and I notice a social value in this"

In this case, the mentor describes the educational input at the domain level, hence the skills that innovators can acquire by interfacing with these reference figures, experts in the field. But in addition to domain inputs and expertise about the tourism industry, Hack for Travel has also infused them with exercise-level skills, so explains one of the mentors:

"So much training in terms of exercise but also in terms of domain, I'm sure that in general the overall quality of the discussion, regarding solutions to deal with the tourism emergency even in the medium to long term, was of great quality."

Exercise skills refer to the fact that young innovators find themselves dealing with real business issues, meeting very strict deadlines, highlighted in the event schedule outlined in the first part of the chapter. A university professor, a very influential and relevant figure in the tourism context, who served as a part-time mentor during Hack for Travel, explained during the interview:

"Young kids, they experienced what it was like to work in teams, that tended to be formed there. Working under stress, having tight deadlines, which I don't know how many of them had experienced before, was a social value for them."

This testimony emphasizes the social value this event had for the young people who got involved by participating in Hack for Travel.

One of the panelists reinforced this argument and stated:

"The hackathon is a confidence booster for them, a way to test themselves with real-world business experience because you need to bring projects that are credible based on a brief."

Analyzing, therefore, the contribution that the hackathon brought from the point of view of gaining experience for young people. The same juror said that for him and all the other operators who were able to gather this value, hackathons are a source of innovative ideas to integrate into their business. Stating:

"Then they [innovators] often ask questions that are unsettling even to a senior like me, so they also show us things that we hadn't thought about at all. So, I think that's also where the value is for companies that invest."

The juror then reported the example as mentioned earlier of a hackathon in which Star Hotels, a major player in the tourism industry, benefited from the clash with

bright young minds. As a result, participating in the hackathon revolutionized certain aspects of its business. The juror, finally, concludes, stating:

"Approaching it with young people who put their face and desire into it, I think it's a great opportunity for companies, and the smart ones understand that."

This statement follows that the benefit to seniors is implicit in interfacing with younger minds who see things from a diverse perspective. In Hack for Travel, the formative social value is again derived from the stakeholder engagement process, as an environment is created in which ideas and knowledge flow together, which, as reiterated in the previous passages, leads to shared value.

In addition, one of the mentors raised a very relevant point in this regard, as he explained that besides receiving fresher points of view from the innovators, the mentors many times confronted each other. As it could happen, multiple mentors monitored a team, and in the case of "divergent advice," they also faced the challenges of gaining from other experts' perspectives. Thus describes the mentor:

"There were moments when teams, assigned to a mentor, were judged by a third-party expert, and that element exposes who is working. It exposes mentors to the judgment of a third party, which they have to accept. It's a modality that we're not used to, but it's very effective in that it promotes the sharing of value".

In addition, it is also relevant to report the point of view of one of the innovators, specifically the leader of the team that won the special prize, who explained that the value was to be judged by very relevant figures in the tourism industry. Thus states the innovator:

"Seeing your project judged and appreciated by a committee of hyper-experts in the field was very educational and satisfying."

The same then proceeded to define Hack for Travel as:

"It was a window to express oneself, to see our idea recognized because it actually has added value in tourism."

To conclude, the social value of Hack for Travel was also powerfully captured under the training aspect by all categories involved. One of the organizers finally states:

"It was a sustainable event, on the human side, the educational side, and the networking side."

This quote summarizes the three aspects analyzed related to the social pillar of sustainability: network created through the involvement of all stakeholders in the industry; the human element as it drove the collaboration among the biggies in the industry, who with a multi-stakeholder decision-making approach, have taken action for the welfare of the tourism community; and finally, the educational aspect as a source of added value for experts and innovators who have been able to reap the benefit from the clash of different perspectives.

3.3.2. Economic pillar

As analyzed in the first chapter, sustainable development is based on pursuing three pillars, the first of which, the social pillar, was studied in the previous paragraph. In this paragraph, instead, the economic pillar of Hack for Travel is analyzed. In this case, the event didn't have returns regarding direct monetary profits for the organizations that put on the occasion. First, it is necessary to recall the basic concepts of this pillar to clarify how Hack for Travel pursued them. The economic pillar in the business context refers to the effective use of assets to keep the profit of one's enterprise lasting over time. Thus, it refers to those activities that aim to make economic growth stable and consistent. A more recent approach includes the economic pillar, defining "the new economy," natural capital (thus ecological systems), and social capital (the relationships between people) (Benn, S., et al., 2014). It is on these concepts that the economic pillar pursued with Hack for Travel is based. Therefore, we can distinguish the pursuit of this goal from two perspectives, the organizers' side, and sponsors' side.

- Organizer viewpoint

Regarding the organizers, among the motivations that led them to plan the event are those of obtaining a return in terms of visibility and of driving the restart of a sector from which they derive most of their revenues, as companies whose main activity depends on the performance of the tourism sector. There is an alignment between the economic objectives, of pursuing a profit for the organizing companies and the social ones, that is, to heal a community in crisis. Thus, explains the CEO and Founder of one of the companies that organized the event:

"One motivation is that it creates benefits at an indirect level, i.e. if the industry recovers, we gain as well, as 60% of our revenues depend on that."

Therefore, an upturn in the industry would reflect positively on the profits of the organizers' businesses.

Moreover, the organizers, who invested human capital and time in this event, were motivated by a return in terms of visibility. With Hack for Travel, they strengthened their position within the tourism industry. Thus, one of the innovators also explains:

"As the organizer of the event, I make myself available to the society. This will somehow pay off in the medium-long term because I position myself in a certain way, I create a network".

The same then continued, later in the interview, reinforcing this thesis and stating:

"It is not the mere pursuit of profit, but as the organizer of the event, through the creation of a shared value, I place myself at the center of a network that returns to me. So, I create value for myself and others."

The economic pillar, in this case, is pursued not to obtain a monetary return but to strengthen its role as an innovator in the tourism sector. Thus, fortifying its business's foundations from which it can then restart and consolidate its economic growth, making it stable over time. As stated by one of the mentors:

"Then, of course, this all has a business side because it keeps the perception you have of that brand [the organizers] high. All people who have in some way interest to remain visible."

He referred to the organizing companies, which as high-tech businesses, benefit significantly from being the proponents of a hackathon in tourism during lock-down.

- Sponsor viewpoint

In addition, the economic pillar of Hack for Travel is also pursued by the companies that participated as sponsors. They invested resources of monetary and other nature, following the same objectives described for the organizers, therefore remaining visible in the industry and laying the foundations for a solid and lasting economic growth of their business. The difference lies in the fact that the former invested human capital, time, and skills, while the latter has made a real investment of a monetary nature. As explained by one of the mentors:

"Each company has made its own, providing awards, some very important, up to 10,000."

These companies, like Alpitour, also invested to have a return in terms of innovation, as they outsourced the research and development function with an innovative formula, the hackathon. As described by the innovator who, with his team, won the Alpitour prize:

"After the end of the event, we began collaborating with the company that awarded us (Alpitour), they invested in our business idea, providing us with the resources to align our project with their type of product and internalize it."

For sponsors, investing monetary capital through this method is an intelligent investment that includes both the social and natural sides, as defined at the beginning of this paragraph. The social side refers to the attention paid to the tourist community insofar as taking part in the ultimate goal of supporting and restoring it. The natural capital, as many of the generated ideas, had sustainable environmental objects. This aspect is explored further in the next section.

3.3.3. Environmental Pillar

After addressing the social and economic pillars, the analysis shows that Hack for Travel was an event that touched on the environmental theme or that pillar of sustainability that aims to improve human well-being by protecting natural capital.

Several hackathons launched "briefs" with a green background; some of these are described in chapter two of the thesis. The most recent example is the hackathon on Urban Mobility, launched by the EIT (European Institute of Innovation) last November. The event put innovators in front of the challenge of "smart" mobility on the theme of decarbonization of travel.

In Hack for Travel, and primarily because of the context in which it took place, environmental sustainability covered almost all the briefs launched by the various sponsors.

As one of the organizers describes:

"There were a lot of elements and ideas related to the world of sustainability, and that was one of the directions; when we talked about the trends and tendencies, environmental sustainability was one of the first topics we touched on."

This is in line with the direction in which the tourism sector in Italy is heading today. As mentioned at the beginning of this chapter, the theme of eco-tourism or sustainable tourism is a recurring one, and more and more operators are adhering to it. For example, the recently widely used formula 'Albergo Diffuso' is an innovative solution of sustainable tourism "Made in Italy". This is characterized by the widespread accommodations in the destination, whose objective is to show the tourist the true nature without 'polluting' the place with structures that would break the environmental balance, ruining its charm. To confirm the relevance of this trend, there is the testimony of a mentor, an expert in the field, who clearly explains the shift that has taken place:

"In the days of over-tourism, which are not so far away, talking about environmental sustainability was excluded.... Today, talking about balance with the territory and not exploiting it has acquired great relevance".

The same then went on describing how in Hack for Travel, therefore, the environmental theme was recurring in many of the projects that were presented:

"I really liked a couple of projects that were related to the widespread use of land [...]. Exciting projects that started from the bottom and tried to give life back to things".

The mentor was impressed by the quality of the projects. Many of the teams build their ideas from and by enhancing the local area, rather than basing their projects on the activities of large corporations:

"Projects starting from this built with land use approaches, which starts from the values of the territory and not from business activities of large entrepreneurs."

In this way, Hack for Travel has also revealed itself as a tool that testifies how young people, represented by innovators, are susceptible to the attention and valorization of their territory. The era of globalization and digitalization, widely discussed in the previous chapters, which facilitated the dissemination of information on a global level, also led to creating a community that is increasingly faced with the challenges of environmental sustainability, which is also evident in Hack for Travel. Strengthening this thesis is the testimony of one of the winning groups whose project, which Alpitour then internalized, was environmentally oriented:

"We decided to go with this idea that was of 'sanitizing' environments in the vacation rental industry."

And yet another mentor explains how he was impressed with a green project:

"Among the projects, one gave birth to this idea of hotels in the green, which were transformed into places to go to work."

Finally, Hack for Travel was an event held entirely online, although by force of contextual conditions, among the interviewees, many raised the fact that from the

point of view of organization and execution, it did not involve any environmental costs related to travel, for example:

"An aspect that in my opinion is worth highlighting is that having been organized entirely online, you have a whole series of consumption that, in this case, are cut."

3.3.4. Ethical Mission

Another noteworthy aspect that emerged from Hack for Travel's analysis is the ethical one. Recent events, such as the conference held in Verona in October 2017, which launched the challenge of 'Ethical and sustainable business: the future that is already present, discuss more and more the theme of sustainability side by side with the ethical one. So much that some Italian associations, such as the Association of Italian Oil Millers (assofrantoio.com), speak of ethical one as "the fourth pillar of sustainability." In this regard, Hack for Travel emerged as an example to follow because the stakeholders who activated for the organization were animated by a spirit of strong ethics, as they made themselves available to a sector severely affected by the crisis from Covid-19. The CEO and Founder of one of the organizing firms raised this point, stating:

"It was a matter of sense, and also a desire to do something positive for an industry that at that time was, and still is, deeply in crisis."

The same then explains:

"We came up with the idea of the hackathon because we collected this desire of people to feel part of a project, which also proactively tried to change or at least understand what was going on."

Concluding, finally, that one of the goals of the event was to stir the waters in an industry that had become totally paralyzed:

"Shake things up, in order to provoke a reaction in an industry in crisis."

One of the mentors reinforces this argument, stating:

"The organizers were really animated by the intention of keeping high the focus on the industry and the urge to "fill a void" that the covid crisis was leaving behind."

So, the ethical theme is recurrent among the motivations that drove the organizers to set up the event and the sponsors who, despite the industry being at a standstill, put up prizes, often corresponding to large sums of money, to help a sector in crisis.

As one of the organizers describes, it was a matter of doing something to find a solution:

"Roll up our sleeves and start talking again to find a solution."

The same then proceeds, describing the positive impacts it has had in psychological terms:

"Hack for Travel had a psychological impact, first of all, because it was born and took place at a time when tourism had "vanished". An event like this was positive and constructive even for those who were only spectators, those who followed us from the Facebook live streams and comments".

It was about ethics, as Hack for Travel set out to heal a community in crisis, as one of the mentors described:

"We are in a situation where the world is at a standstill, the hotels are empty, of tourism we do not know what will happen: let's do something!"

The same then continued by stating:

"The need to make something useful and give answers, it was thought, then, this type of event as a result of this critical moment."

Young people have also benefited from this support as they found themselves approaching the business environment amidst an unprecedented crisis. Hack for Travel gave them the impetus to go forward, as one mentor describes:

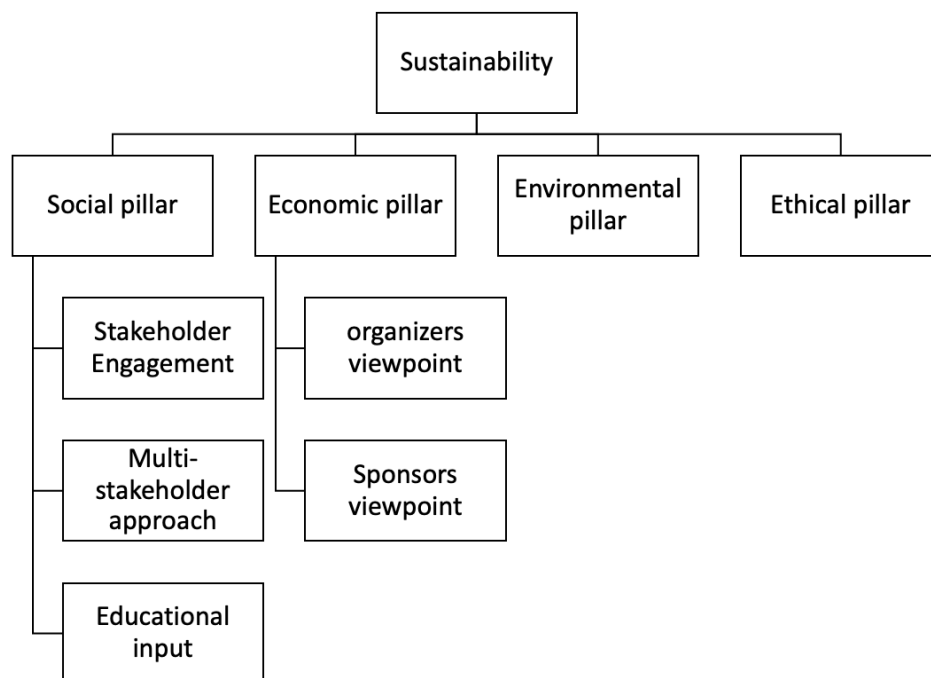
"Also, a goal of reactivation for young people."

In conclusion, Hack for Travel was an event that, upon thorough analysis, was shown to be supportive of all the pillars of sustainability. In addition, it was also relevant from a standpoint in that it took action to boost the tourism industry that, like so many others, was, and still is, damaged by Covid-19. As one of the mentors describes:

"Spirit of revitalization in a stakeholder engagement perspective."

3.3.5 Overview

Fig.3.11 – Overview of Hack for travel analysis based on sustainability



Source: Author elaboration

The scheme represented in (fig.3.11) graphically summarizes what was extrapolated from the Hack for Travel sustainability analysis.

Reviewing the above, Hack for Travel proved to be a valuable tool for sustainable development. It presented relevant insights into all three pillars of sustainability at a sectorial level.

The first and unquestionably most crucial aspect noted is that relating to the social pillar. Hack for Travel proved to be a powerful driver for the stakeholder engagement process in these terms. That is because it led to creating a shared environment for all stakeholders in which an exchange of knowledge took place. This process brought together, strengthening the ties, all stakeholders of the industry. The event allowed all sorts of tourism operators to participate readily, making the stakeholder engagement process even more relevant. Hack for Travel connected all the dots of the Italian tourism system. The second aspect related to sustainability concerns Hack for Travel as a tool for a multi-stakeholder approach. That is because the initial idea was taken jointly by different actors. The advantages of this aspect are found in the positive obtained results, which show that hackathons can be used following this approach. A final relevant aspect of social sustainability is the educational input provided to participants, especially to innovators. These in 2 days had the opportunity to strengthen their skills and experience in the sector. For those who were able to capture it, this input was also functional to mentors because, thanks to the meeting with the innovators, they were able to renew their perspectives on business culture. It is necessary to underline that this aspect existed thanks to the stakeholder engagement process, as it was precisely creating the stakeholder network that guaranteed the flow and exchange of skills and opinions.

As depicted in the diagram, moving on to the economic pillar, Hack for Travel proved valuable to the organizers and sponsors. The former invested human capital and resources for a return in positioning and visibility. On the other hand, the latter also invested monetary capital (the prizes) in return for innovation. Even if they have not obtained an immediate return in terms of profit, both these categories strengthened their business foundations. That is crucial to having stable economic growth over time. Furthermore, it is precisely this last aspect on which the economic pillar of sustainable development rests.

The third pillar, the environmental one, is achieved as the framework of the event. Many of the briefs and final projects presented were green-themed. This aspect is also relevant because it shows how young people are increasingly oriented towards

pursuing environmental objectives, which are now inseparable from economic and social ones.

Finally, the last key aspect is the ethical one. Very relevant because the organizers have taken action to help a community severely affected by the Covid-19 crisis. This aspect strengthens the concept of stakeholder engagement because it reinforces, even more, the ties that were created. Besides being personally beneficial for the various actors, the connections remain authentic, consolidating, even more, the tourism community created in Hack for Travel.

Conclusions

This work aimed to explore the hackathons phenomenon within the tourism context and analyze the main benefits generated for the sector and those engaged in it. The study focuses on the analysis of Hack for Travel, which was functional in several respects that are explained in this section.

The first chapter explains how digitalization has also had a strong impact in the tourism industry, optimizing many parts of the value chain, such as costumer's registration and booking processes. Even in an industry whose primary good is subject-destination interaction and where innovation would seem to be unnecessary, technologies such as blockchain and digital branding have taken hold. Also demonstrating the positive impact that digitalization has in the industry is Hack for Travel. The event, which was successful in terms of visibility and results, was organized through a format, the hackathon, whose definition is to promote innovation. In addition, it was organized by tourism companies with a solid technological background. Therefore, to engage in finding a solution during the crisis from Covid-19 were precisely companies whose primary activity is based on innovation, demonstrating that this aspect is now a key factor for business success. The second part of the chapter successively delves into the essential aspects of sustainable development, highlighting its three pillars (social, environmental, and ethical) and stakeholder theory. Specifically, these studies reveal three categories of stakeholders: external, secondary, and primary stakeholder. In the tourism system, external and secondary stakeholders are represented by tourism organizations, airlines, insurance companies, etc., respectively related to the international and national context. These stakeholders have a relevant influence on the companies' choices, even though they are not contractually bound. The primary stakeholders are all those actors who influence the strategic decisions of suppliers and firms because contractual relations link them. Finally, after explaining the main features, the chapter highlights the importance of stakeholder engagement in innovation processes. Among these, one that is gaining increasing popularity is the hackathon described in the second chapter. In particular, the chapter explains that the hackathon, which was born as a marathon among hackers, has become an accurate brainstorming tool that promotes innovation. Specifically, it is generally a 24-, 48-, or 36-hours event in

which teams composed of 6 members compete. The challenge consists of presenting a business idea prototype at the expiration of time, following the guidelines dictated by the event. The challenge's objective can be of various kinds, depending on the purpose for which it is organized.

More and more companies are using it internally to stimulate employee creativity through innovation. Or it is used externally by the company as a recruiting tool or to partly outsource the R&D function. *Sustainability, competition, collaboration* and *innovation* are the four essential pillars of this format. Innovation is the goal of hackathons as brainstorming processes to stimulate improvement. Competition in that is a marathon between teams—collaboration, which happens within the various groups and at the level of organizer companies. Hackathons launched at a sectoral or intra-sectoral level result in solid collaboration between stakeholders. And it is precisely under this last point that we also speak of sustainability as possible functional tools for stakeholder engagement. The analysis examining Hack for Travel aims at explaining in depth this last aspect.

This phenomenon was analyzed following a qualitative analysis methodology and the interviews' information to demonstrate the thesis:

Can hackathons drive stakeholder engagement? Specifically, did Hack for Travel drive Stakeholder Engagement?

Furthermore, was it instrumental to sustainable development within the tourism industry? If yes, which are the main results obtained following the three pillars of sustainability?

Following a detailed analysis, this study first revealed the crucial aspects required for Hack for Travel organization, moving to answer these questions after giving a clear picture of the event unfolding. Four main categories of actors were revealed: Organizers, Mentors, Innovators, and Sponsors. In addition, the research identified three main phases, a pre-event, the event, and a post-event, each of which described the main actions, the actors involved, and the resources and skills required. The first part also highlighted the main advantages and disadvantages of the online format, which is very relevant as Hack for Travel was among the first hackathons to be held entirely online. With these solid foundations in place, the study highlighted the concrete results that the event brought to the various categories of participants and the industry as a whole. The analysis follows the pattern of sustainability by highlighting its three pillars and the ethical aspects that were also attributable to this

event. Starting with the social pillar, which was the most relevant in Hack for Travel, the study shows that the event was a powerful tool for networking within the tourism industry, thus promoting stakeholder engagement. The benefits derived are distinguishable according to the categories of participants. The organizers have obtained returns in terms of visibility, reputation, and positioning in the sector. Companies that participated as sponsors got a return in terms of innovation. Innovators benefited in terms of connecting with different industry stakeholders and acquiring expertise. Lastly, mentors benefited in that they innovated their way of looking at business. In addition, Hack for Travel turned out to be a tool for a multistakeholder decision-making approach as the idea of creating the event was taken jointly by organizers and institutional sponsors of the event. Finally, the educational aspect, which is part of the consequences of the stakeholder engagement process, has been determined for innovators and mentors, acquisitions in terms of experience and knowledge. Specifically, the former learned essential notions about the tourism sector and gained experience as they challenged each other in a competition where time was a key factor. On the other hand, the latter was able to innovate, by confronting their perspectives with the ones of young workers. Along with the social pillar, the economic pillar was pursued. The organizers provided time and human capital for a return in terms of visibility and reputation, making them stable bases to ensure lasting economic growth. Sponsors, on the other hand, have also invested monetary capital in innovating on a solid foundation. Finally, both of these actors, whose core activity is based on the tourism sector, have invested in its recovery, as it reflects positively on their business. The last pillar is the environmental one which is a framework for the whole event as many of the projects presented were green-themed. In addition, the event was held 100% online, so without environmental costs. A final key aspect that emerges from Hack for Travel's analysis is ethics. An aspect not to be underestimated, given the importance it is acquiring in recent years. The organizers and sponsors activated mainly to put themselves at the service of a sector that is firmly in crisis.

Overall, Hack for Travel was a success in event organization, stakeholder engagement, and multistakeholder decision-making approach. Therefore, the thesis highlighted that an online hackathon, if impeccably organized, can bring significant benefits, almost on par with a physical one. The thesis also noted that hackathons are an optimal tool for the implementation of a stakeholder engagement, because if

organized at the sectoral level, they create an environment for sharing knowledge and creating ideas, generating a network that strengthens the relationships of the various stakeholders and leads to the co-creation of shared value. In addition, if driven by a solid common macro-objective, the organization of this event at the sector level proves to be a tool of multistakeholder decision-making approach.

Finally, in a current context in which environmental sustainability has become inseparable from economic sustainability, this type of event allows covering green issues, generating innovative ideas at the environmental level, which then, if internalized by participating companies, lead simultaneously to economic sustainability.

3.4.2. Implications

The research contributed to the literature by providing a comprehensive analysis of a hackathon held entirely online in Italy. The dissertation then outlines the advantages and disadvantages of the offline event and the requirements for its organization.

Moreover, the study analyzed the implications of an online hackathon in terms of creating stakeholder engagement, highlighting the importance of this process in the context of innovative idea creation (Pucci, T., et al., 2020). Furthermore, the study notes how Hack for Travel proved to be a tool for a multi-stakeholder approach, as the interviews reveal that the decision made on the organization involved multiple stakeholders in the industry. In particular, these came together for the co-creation of value within the Italian tourism community. In this aspect, the analysis showed that the event was functional to the purpose because, in addition to the general support to the Italian tourism community, it also brought benefits to each actor involved at a personal level. The thesis also shows that Hack for Travel determined the cohesion and collaboration of institutional and private bodies. Another aspect noted is that the process of multi-stakeholder decision-making in a context of high innovative background, such as the hackathon, takes on even more relevance in terms of co-creation of value, as it determines the creation of a common environment of knowledge sharing (Van Den Bosch, F., Volberda, H., De Boer, M., 1999).

Following the results obtained from the analysis carried out on Hack for Travel, it is possible to expose some deductions and clarifications regarding hackathons in general. In particular, hackathons are tools characterized by a strong technological

and innovative imprint, so the organization of such events, to be effective, must be implemented by individuals with high capabilities of this kind. Subsequently, as described in the second chapter, hackathons can be organized for various purposes, promoting innovation or recruiting. If the primary objective that one intends to achieve is to leverage stakeholder engagement, the involvement, at sector level and beyond, of a high and diversified number of players is required. In this way, an environment of sharing and stratified knowledge is created within the event. Therefore, a fundamental condition to obtain positive results in creating a stakeholder network, even more than the number of actors involved, is their variety. In Hack for Travel, the event was successful in creating a place for sharing knowledge and information, as the actors involved, including mentors, organizers, innovators, and sponsors, while operating in the same industry, had very differentiated specializations. As reported in the interviews, some of the participants were active operators in the industry, such as hotel directors; others were academics. Therefore, university professors specialized in tourism; still, other engineering graduates, who provided mathematical knowledge, also involved actors specializing in data analysis. Thus, Hack for Travel strength was also the presence of actors with skills that can be defined as complementary.

In addition, a further clarification to those who participate in such an event as an innovator is to participate as an individual and then join groups with strangers, this is because it is precisely the contact with different individuals in terms of skills, which promotes innovation and fosters the emergence of new ties.

Finally, when organizing a hackathon at the sectoral or even infra-sectoral level, the organizing companies' macro-objectives aim to achieve must be higher than the individual objectives; otherwise, there is a risk that conflicts will be created in terms of sharing value and appropriation of innovations. In the case of Hack for Travel, for example, in addition to the various objectives of the individual participants, the common goal was recovery, shared by all involved. That is why the event was a success in terms of stakeholder engagement and as a multi-stakeholder approach. Therefore, when organizing events of this magnitude, it is necessary to consider that all participants' knowledge gained is absorbed. As demonstrated by the thesis, the primary benefit gained from these events is creating a stakeholder network, the advantages of which benefit the entire community involved.

3.4.1. Limitations and future research

The thesis is not without its limitations. First, it refers only to a single case study, which occurred in very particular circumstances. So future analyses of cases of a similar nature in ordinary contexts would lead to more specific results.

In addition, the research did not allow for an interview with one of the representatives of the leading sponsor companies, for example, Alpitour. An interview with one of these representatives would have led to a more precise analysis of the collaboration between innovators and sponsors. In addition, it would have allowed for a dual perspective on the post-hackathon relationship.

Finally, the research can be expanded to events held in other sectors to assess its effectiveness as instrument for leveraging the stakeholder engagement concerning contexts other than tourism.

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