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NETWORK OF TOURISM OBSERVATORIES TOWARD TOURISM INTELLIGENCE: THE CASE OF BRAZIL

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ABSTRACT

This research analyzes the Brazilian Network of Tourism Observatories as a mainspring to support the understanding of the tourism activity in the country, as well as the creation of smart destination. From the literature review and the application of questionnaires to the observatories, this study was developed, using NVivo software for data analysis. The method is part of an applied research with field research that was carried out in the year 2019. In the period under analysis, the Brazilian Network of Observatories was formed by 26 active stakeholders. It is well known that the set of knowledge generated by tourism observatories in Brazil, has contributed to tourist territories being able to implement smart and target strategies for the real need of tourist demand. The data collected indicates that the research developed by the observatories of the Brazilian network is important and valid information for public and private

managers, and can also implement actions that increase the quality of the tourist offer, as well as the experience of the visitor to Brazil. In this way, it is essential to deepen and broaden the understanding on the impact and relevance of tourism observatories toward tourism intelligence development.

KEYWORDS
Network; Tourism Observatories; Brazil; Tourism Intelligence; Smart Destination.

ECONLIT KEYS
D85; O30; Z32.

1. INTRODUCTION

To understand the management and strategic complexity of tourism is necessary, first, to understand the concept of tourism destination (Pearce, 2014) that is in constant evolution and it is related to the place where the tourism activity happens and it is consumed (Saraniemi & Kylanen, 2011). Crouch (2011) and Gnoth (2007) affirm that the tourism destination is a set of cultural, social and economic aspects in a logic of consumption and experienced connected and linked to complex process of production that depends on the tourism destination wherever is, in a community, region or country.

It is necessary to understand that beyond its complexity (Morin, 2006), it is adaptive because it is open to interventions of the external environment (Capra, 2002) since it is composed by several parts (tourist resources, people, transportation, image, mark, equipment and touristic infrastructure, for instance) attached to a "*non-linear fashion*", because it forms components of a adapted system to a certain "event" (Barrado, 2004).

Because of its permanent evolution, the tourism destination is understood as an extreme result of tourism development while a geo-spatial, social-cultural and global-economic phenomenon, as well as the result of the progress of the development of the theory of tourism (Jovicic, 2016). This way, to follow up, to comprehend, to access, to measure and to analyze (our emphasis) the tourism destination, it is necessary to create Tourism Observatories that, according to Luque Gil, Zayas Fernandez & Caro Herrero (2015), are comprehensive and analytical tools of a determinate territory, which is set as a data base with several contents and that is converted into tools to observation and management of complex touristic process.

In this framework, the Tourism Observatories work as an smart organism of support to states and cities and also an smart decision maker trade (Blasco & Cuevas, 2013) in a way to contribute to the evolution of tourism destination, that according to Buhalis (2015), Blanco (2015), Rossi Jimenez et al. (2017), enlighten that face of the complexity of the tourism destination, imply the necessity to measure its evolution, that will require from managers, specific strategic approaches, adequate methodologies and also, amplitude range and profundity on the existent indicators, that will contribute to a new paradigm of smart destinations (SD). Yet, Lopez de Avila (2015) defines smart tourism destination as an innovative tourism destination, built on an infrastructure of state-of-the-art technology guaranteeing the sustainable development of tourist areas, accessible to everyone, which facilitates the visitor's interaction with and integration into his or her surroundings, increases the quality of the experience at the destination, and improves residents' quality of life.

Understanding such aspects, this paper aims on studies and analysis of the Brazilian Network of Tourism Observatories as an assumption to support the public and private sectors, and also to contribute to the development of smart destinations (SD) as established by Gretzel (2018), the aim is the regional tourism smartness and not just individual SD. The paper also intends to evaluate the difficulties and obstacles encountered by the network stakeholders, which concerns: *(i)* the interlocution between methodologies; *(ii)* access to data; *(iii)* the formation of time series; *(iv)* the dissemination and systematization of information and *(v)* the transformation of knowledge into strategic market smartness.

The Brazilian Network of Tourism Observatories, coming from different states with balanced macro-regional representation in the South, Midwest, and Southeast regions of Brazil, but also with important focus also on Brazilian Northeast and with some observatories in the north of the country. This Network started to be created in 2016 and currently starts to consolidate itself as a network.

The paper is structured as follows. Initially, it is presented the theoretical revision has focused on "smart destination" and "tourism observatories" followed by the methodology. Then, the results of the research are presented, followed by the discussion and the proposed conceptual framework for "Network of tourism

observatories toward tourism intelligence". Lastly, final considerations and recommendations for future studies are presented.

2. LITERATURE REVIEW

2.1) SMART DESTINATION

The concept of smart destinations has its origin in smart cities that is related to geographical limits, target audience and interaction with visitors. Cities take into account competitiveness, human and social capital, participation, mobility, natural resources and life quality. So, smart city uses technology to provide efficiently urban services, improve people's life quality and transform the relationship between local entities, companies, and citizens, providing a new way of living in the city. Something similar is that smart cities and smart destination are a knowledge-based territory. But, still there is no consensus on the concept of smart city or the minimum elements that must exist in a city to be considered "smart".

But, in tourism, we bring the conception mentioned in the manual of smart tourism destination from INVAT.TUR (2015), indicates that the smart tourism destination must facilitate the access for all residents and tourists, using necessary means through an inclusive tourism, universally designed (products, environment, programs, services) so that majority of people can have a positive experience and quality of life.

A tourism destination is considered smart, upon the creation of useful information, and based on indicators proposed by Vera Rebollo & Ivars-Baidal (2014) known as: governance, actions of territorial and urban sustainability, tourism sustainability, accessibility, connectivity and sensorial learning, information system and tourism intelligence, tourism information, online marketing, marketing, innovation and improvement of the experience and must be a smart territory for all visitors and residents. In additional to the authors view, Buhalis (2015) affirms that, based on Smart Cities research and methodologies, a smart tourism destination successfully implements smartness, which is fostered by open innovation, supported by investments in human and social capital, and sustained by participatory governance

in order to develop the collective competitiveness of tourism destinations to enhance social, economic and environmental prosperity for all stakeholders.

Also, according to Um & Chung (2019) there are various services or "industries" connected to the tourism activity, and if they are linked to the concept of smart tourism, with information and communication technologies to support them, these services and industries become a smart tourism environment (area of tourism studies). As technology grows, tourism destinations have become more competitive by offering benefits to all those somehow involved with tourism.

The smart tourism can not only maximize the use of tourism resources, but also manage tourist cities and tourism destinations, maintain tourist attractions and improve quality of life, expand and qualify communication between tourists and residents, between the tourist trade and public organizations (Gretzel, Werthner, Koo & Lamsfus, 2015).

Researches of Blasco Franch & Cuevas Contreras (2013) and Santos & Pinheiro (2019) highlight that there are national and international efforts to monitor tourism information, in several platforms, among which, the online one that store comments, images, hash tags, and others, where these data are valid to understand the reputation of a certain tourism destination or project (Cerqueira & Silva, 2011; Del Fresno Garcia, 2011; 2012). Furthermore, it is used other databases as governor's official indicators, and research on tourism among others.

For this reason, tourism managers must see and monitor these experiences and visitors' expectations, by specific methodologies, as well as to anticipate unexpected events that may threat the evolution of the life cycle of a certain tourism destination (Butler, 1980; Fombrun & Rindova, 1998).

In this scenario, it is necessary to build a technology structure in smart destinations, to have databank to manager these information (Agencia Aysen, 2009), because as INVAT.TUR (2015) defines the SD (smart destinations) has a technological infra instruction base, a smartness system that catches information in a process way, analyze and understand the events in real time, to guide and facilitate the decision making, in a way to improve the quality of the tourist experience. According to Horster (2018), a great visitor's databank and the development of

strategies based on this databank, contribute to the tourist return, besides financial gains, good image, competitiveness increase, confidence and fidelity.

Boes, Buhalis & Inversini (2016, p. 394) ratify that “Smart Tourism Destinations can be perceived as places utilizing the available technological tools and techniques to enable demand and supply to co-create value, pleasure, and experiences for the tourist and wealth, profit, and benefits for the organizations and the destination”.

Therefore, it is necessary to group this databank from Smart Destinations, named as Big data, organizing and managing information properly. Big data analytics, therefore, aims to discover novel patterns and business insights that can meaningfully and, oftentimes in real-time, complement traditional approaches of research such as experiments, focus group studies and consumer surveys. There is huge potential in developing big data analytics in travel and tourism. Particularly, as an experience-based product the design and development of tourism requires a profound understanding of what today’s travelers need and want, how they move through and interact with physical and social spaces, and what leads to their enjoyment, happiness, and the realization of personal values (Xiang & Fesenmaier, 2017).

Concerning the bunch of technologies implemented by a smart destination, Vargas-Sanchez (2016) classified them into three areas: Information and Communication Technologies, Energy, and Mobility. In addition, many tools were mentioned: big data; business analytics; business intelligence; data visualization software; fast data; machine learning; interactive devices with the destination (apps, augmented reality); open data; semantic information discovery; system dynamics models.

The Big Data in smart destinations through a cross-disciplinary interpretative lens, with theoretical and empirical contributions that could allow deriving a more mature definition of smart tourism and its meaning for companies and destinations. Considering that digital transformation is bringing in the tourism sector and in order to support managers that operate in this sector, it is important to investigate several issues including; understanding how big data can support decision making in tourism management; how big data allow the co-creation of digital local experience and

support the competitiveness of destinations, which are meaning and implications of knowledge management in smart tourism; how big data impact on business model innovation in tourism; how big data can be assumed as the basis for improving the quality of tourism services by public and private organizations (Ardito et al., 2019). For these Smart Destinations, the Tourism Observatories should have a prior function of management, because to fulfill these increasing demands, it is fundamental to be based on real, integrated, and organized information of a certain environment.

2.2) TOURISM OBSERVATORIES

To reach the maturity of a tourism destination it is necessary to permanently search for information that help managers (public and private) to develop smart strategies that may meet tourists demands and mainly to overcome their expectations during the trip. To accomplish this, it is necessary to understand the tourism observatories as institutions to store databank from different means that will be shared with a tourism production chain, to be constantly lined to the market trends.

From this perspective, Conde, Schmidt & Covarrubias (2011) mentioned by Mendoza, Yumisaca, Freire & Ullauri (2016) consider Tourism Observatories as integrated information systems, studies, research, and tourism monitoring of a destination. Therefore, it competes to the tourism observatory the responsibility to mediate these knowledge and techniques to plan and manager the tourism activity into a certain environment.

Furthermore, it is understood that tourism is a social economic activity that creates economic, cultural, social and environmental impacts into a place, and it is fundamental to create an instance that have precise and qualify information to support the strategic decision making.

Tourism destinations such as Paris (France), Madrid (Spain) and Buenos Aires (Argentina) have been highlighted worldwide due to their efficiency in Tourism Observatories or Tourism Intelligence Network and have reached through the data

collection (empirical, theoretical and ethnographical) that help managers to direct tourism in these areas (Agencia Aysen, 2009; Santos & Pinheiro, 2019).

The Welcome City Lab[1] is a program to stimulate innovation in the tourist sector created by Paris & Co with the support of City of Paris, BPI France, Paris Convention and Visitors Bureau and the General Directorate of Enterprise. The aim is to be an innovation platform that offers startups and players in the tourist sector a full range of information to create and innovate.

Another example is the "Red DTI (Destinos Turísticos Inteligentes)"[2] of Spain has the aim of: *(i)* promote the conversion of Spanish tourism destinations to smart destinations; *(ii)* promote public-public and public-private collaboration in the development of products, services and actions of Smart Tourism Destinations; *(iii)* contribute to guarantee Spain's leadership in tourism intelligence; *(iv)* guarantee the quality and evolution of the DTI project.

In Latin America, one of the most emblematic examples is the Tourism Observatory in Buenos Aires[3], which has created the System of Tourism Intelligence, by using Big Data and Microsoft Power BI. This system is available in a digital platform that dynamically allows the access to data from different sources, including tourism mobility, hotel competitiveness, travel planning and international tourists.

The examples focus on gathering local data and information with the objective of transforming the destination into smart, through specific and local knowledge, based on innovative methodologies that bring together different *stakeholders* in the tourism production chain, under a technological pillar that facilitates the dissemination of information to all, carrying out strategies and public policies that can assess the position of smart destination.

Differently, in Brazil almost all the observatories are connected to a public university or based in a public tourism sector, like it's mentioned in the tourism national plan (Brasil, 2018), the Brazilian observatories are initiatives of public policies to encourage local destination to recognize the

[1] Available in: https://welcomecitylab.parisandco.paris/
[2] Available in: https://www.destinosinteligentes.es/
[3] Available in: https://turismo.buenosaires.gob.ar/en/observatorio

importance of tourism as a main activity, related to a database structure and maintenance that allow systematic and regular measurement and analysis of tourism activity.

Thus, it is highlighted some advantages of the research in tourism from observatories, based on the Agencia Aysen (2009): *(i)* identification of problems: the investigation allows isolating variables and identifying areas where improvements can be made or problems avoided; *(ii)* research can identify trends, interpret market movements, and monitor the behavior of variables which allow public policies and entrepreneurs to rely on concrete data in decision-making processes; *(iii)* in many occasions, some inoperative systems, methods and practices are still present on researches. By finding them and demonstrating their inefficiency, solutions can be found and improve the processes or the experience of tourism; *(iv)* some opportunities and new trends are easily identified when appropriate variations are analyzed, once the research may allow new market, new products, or new usage, by identifying the customers changing expectations; *(v)* to understand and to improve image: when users of a certain service identify that suppliers know the market and are interested in meeting their needs, they perceive that the destination cares about them and try to create products, services, and conditions to improve their experience; *(vi)* reinforce and integrates public and private managers to share this information, where everyone is responsible for contributing to the strengthening of tourism; *(vii)* encourage the creation of new tourism observatories to build an information network of tourism; *(viii)* increase the demand of new information, which was not researched before; and *(ix)* contributes to the maintenance and historicity of tourist data.

In other words, from tourism observatories, it is possible that destination may have more real and smart conditions to be in the market in the moment of consolidation (Butler, 1980), reinventing themselves according to concrete data, based on society needs, trades and demands.

3. METHODOLOGY

This applied research, carried out in 2019, is characterized as a case study on the Brazilian Network of Tourism Observatories. This is a bibliographical, descriptive,

and exploratory research, because, so far, there are few studies on Tourism Observatories, mainly in the Brazil and Latin America.

The data from this research are based on a previous survey on the Tourism Observatories that participated in the last meeting held in May 2018 in the city of Foz do Iguaçu (Paraná, Brazil) at the 2nd Meeting of the Brazilian Network of Tourism Observatories, which identified 38 observatories. However, this research will take into account the observatories active in the Brazilian Tourism Network, based on the attendance lists of the meetings that have already taken place, namely 26 observatories.

To understand the functioning of the Network and the Observatories, regarding their objectives proposed, a structured questionnaire based on SD and knowledge management (Gretzel, 2018; Vera Rebollo & Ivars-Baidal, 2014) precepts was elaborated. The questionnaire consisted of 18 questions between these closed and open questions (appendix). It was sent online (using the Google Forms platform) to the active observatories in the Network during the months of June and July 2019, with 14 answers, which represents 53.8% of the studied universe.

The data collected were analyzed and tabulated quantitatively and qualitatively, as follows, taking into consideration that they represent the scenario and the opinion of more than half of the active observatories, which is significant in qualitative analysis. The NVivo software was used to support the analysis.

The information collected was analyzed using Bardin's content analysis procedure, which is configured in a set of communication analysis techniques that aims to obtain, by systematic procedures, indicators that allow the deduction of knowledge related to the conditions of production and reception of these messages (Bardin, 2011). According to Bardin, content analysis is a set of communication analysis techniques aimed at obtaining, through systematic and objective procedures for describing the content of messages, indicators that allow the inference of knowledge related to the production/reception conditions (inferred variables) of these messages (Bardin, 2011). In other words, this research is characterized as a qualitative method of processing the information contained in the responses. After that, a word cloud, tables, and figures have been made to better understand the content in the speeches and responses of our research audience.

4. BRAZILIAN NETWORK OF TOURISM OBSERVATORIES: RESULTS OF THE RESEARCH

From the respondent observatories, it was detected the following: 64.3% have more than five years of existence; 21.4% have between 3 and 5 years of existence and 14.3% between 1 and 3 years of existence. About 34% is formed by more institutions (some with 4, 5 and 7 institutions, and some with 13 and even 20), therefore, the observatory itself is already a network, and the other 63% are formed by one institution only.

About 66% are mainly linked to public secretariats (municipal and state), as well as to other tourism-related public institutions, 27% are linked to universities, and one observatory has established that they are not linked to any institution, as they are set of technical cooperation network.

When asked about periodic surveys, these Observatories highlighted, mainly, tourism demand survey, tourism employment, hotel occupancy rate and surveys related to specific events, as follows: *(i)* demand, offer, flow and impact of tourism activity; *(ii)* attendance at the City Hall Information Office; *(iii)* demand, employment in tourism, social media monitoring, yearbook, monthly tourism newsletter; *(iv)* secondary visitor data on attractions and air and road traffic; *(v)* primary survey (airport and bus arrivals, tourist profile; residents' preference poll; national and international air markets). Concerning secondary data (hotel performance, occupancy rate, hotel reputation, most visited attractions, employability, open companies, movement of hotel boats, bird watching, flow in State Parks, censuses and mandatory activities in CADASTUR); *(vi)* survey of domestic tourists, profile of international tourists, volume of visitors, employment and income produced by tourism activity; *(vii)* Carnival, June folklore festival, LGBT Parade, tourist demand; *(viii)* primary research; *(ix)* tourist demand; *(x)* hotel occupancy, tax over service on tourism activities; General Register of Employed and Unemployed (CAGED) in the tourism area; tourist flow of events; ocean fishing tourism; whale watching tourism; *(xi)* holiday/vacation occupation survey, survey of the main attractions in entrance gates; *(xii)* survey of demands, profile and satisfaction survey of participants in

events like New Year's Eve, Carnival, Gastronomic Festivals, and others; airport monitoring, characterization and dimension of tourist profile, road data monitoring, museum monitoring and hotel occupancy bulletin. In this present time, one observatory is not conducting periodic researches, because it is under restructuring.

It is identified that some observatories conduct a larger number of researches than others, and only demand surveys and specific events are similar to the most respondents. The concept of the network (Balestrin & Verschoore, 2008) is to integrate the ideas, methods and techniques (our emphasis), as well as the definition of necessary researches that guide both states and municipalities, as well as the nation to understand the tourism activity territorially.

Therefore, it is necessary that the tourism observatory network promote dialogues and meetings aiming on integrating the thoughts, appropriately directing the priority researches in Brazil, attend each local peculiarity. “A tourism observatory has among its objectives, monitoring, observation, collect, treatment, analysis, generation and monitoring of systematic and standardized data and information on tourism activity at different regional, state and municipal administrative levels. It is an institutional resource that allows the monitoring of tourism performance in a certain administrative level, contributing to the sustainable planning of the activity to enhance tourism as an option for economic development” (Brasil, 2018, p. 83).

Not even all Brazilian states have a tourism observatory or any sector, department or center that conducts periodic surveys (Brasil, 2018). This causes information gaps needed to guide public tourism policies mainly to lead Brazil to become a smart tourism destination. In this context, it is emphasized that information is one of the main pillars that support the development of smart tourism in a territory. Thus, it is necessary to understand that data collection in tourism provide awareness of tourists needs and direct strategies to become smarts as well as to monitor the profile of visitors and world trends (Boes; Buhalis & Inversini, 2016; INVAT.TUR, 2015).

In sporadic surveys, the respondent observatories have highlighted researches on events, as follows: *(i)* research on events; *(ii)* market segmentation; *(iii)* demand on events; *(iv)* visitors in tourist attractions; *(v)* events that promote tourism flow, amateur fishing tourist profile, economic increase in events, international operators;

(vi) religious events in some cities; *(vii)* festivals, such as *Virada Cultural* and International Comic Festival; *(viii)* research on events, economic impacts of tourism and production chain; *(ix)* tourist flow; *(x)* profile survey and satisfaction of participants in various events (Carnival, Gastronomic Festival, LGBT Pride Parade, State Meeting of Artisans, and others), Hotel Census in demand cities, tourist inventories and movement of employees via CAGED in the Tourism Sector; *(xi)* sporadic surveys performed on specific demands. In the moment, there are 3 observatories not developing any sporadic research.

In Brazil, it is necessary to monitor and follow up the events segment, as it represented 18.7% of the visitor flow in 2016 (Brasil, 2018). So that one of the initiatives in the National Tourism Plan (2018-2020) is to “stimulate events that generate tourism flows” (Brasil, 2018, p. 137). It is important to notice that the Ministry of Tourism supports several events that generate tourist flows since its planning, as it understands the importance of this segment. The specific data presented, help various event-related sectors to understand what aspects are necessary to continue growing and specially to increasing the quality of service provided.

When asked about the promotion of information, about 93% of observatories have published the data and 7% haven not. The most used source for publication is websites of the agencies or the observatory's own site, about 57% has their own website or social media profile.

Regarding the methodologies used, 85.7% of states develop their own research methodologies. 14.3% do not develop their own methodologies, being based on methodologies of the Ministry of Tourism or other tourism observatories.

In the development of methodologies in the observatories, 64.3% affirm that they have already build partnership with other observatories and 35.7% have never build partnership to develop methodologies. From the percentage of observatories that already have partnerships for methodological issues, it is observed that there is already a certain interlocution among them. In addition, there is not only one observatory as a reference for others, since this research have identified five distinct observatories that provided methodological guidance to others. As the respondents'

sample did not represent all of the Network's observatories (we have obtained only 53.8% of responses), the names of the observatories will remain anonymous.

Regarding the importance of the standardization of tourism research methodologies in Brazil, all observatories that have responded to the form think the standardization is relevant. The main reasons are given below (Table 1):

Reasons	Synthesis of the Reasons
To standardize the data collet so that we can make quality comparisons of the results	To Standardize, quality comparisons
To compare data; create methods and stronger numbers	Data comparisons, methods, and strong numbers
To facilitate data comparison	Data comparison
To harmonize the production of data and promote comparability in a regional level	To harmonize data production; comparability; regional level
Create parameters of quality comparisons	Parameters; quality comparability
To have national comparative analysis as well to facilitate action plans	National comparative analysis; action plans
With the standardization of methodologies is not possible to make comparative analysis in a research and does not guarantee the reliability of results	Comparison in a research; reliability of results
To unify the working methods and create consistent information	To unify the working methods; consistent information
To generate comparative results and build collective solutions	Comparative results; collective solutions

Table 1: Reasons to standardize the methodologies of tourism research in Brazil

Source: Authors elaboration based on form responses (2020)

The synthesis of the reasons presented for the standardization of tourism research methodologies in Brazil brings some interesting interpretations, since it shows the observatories concerns about the standardization and comparability of data. It also indicates for *(i)* the establishment of more robust methodologies;

(ii) establishment of quality parameters; *(iii)* the concern about the reliability of results; and *(iv)* the relevance of the observatories' collective work, as well as the creation of collective solutions. There is also a concern about regional as well as national and regional analyzes.

It is emphasized that in some responses it was observed that the standardization of methodologies may contribute to the facilitation of action plan, that is to say, the responding observatories have already pointed important trends related to the application of knowledge. It can be inferred that researches produced with standardized methodologies allow having a more adequate planning to actions to be taken in tourism destinations. At a national level, it can also be inferred that the standardization of tourism methodologies could be an asset that would contribute for a more effective planning of the activity in the country, since the research produced would be more reliable.

When asked if the data produced by the observatories are used to generate public policies, about 93% responded yes and about 7% no. In Figure 1 we can see how observatories believe these data are used for this purpose.

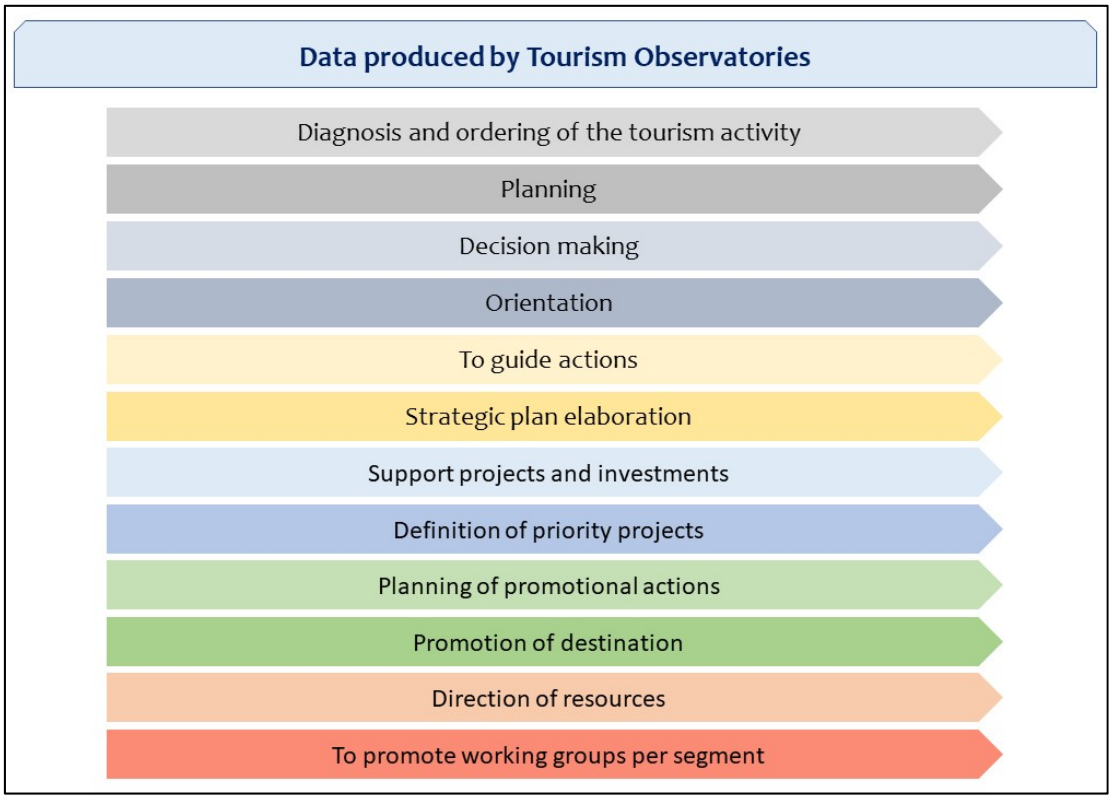

Figure 1: The way data are produced by the Tourism Observatories to generate public policies

Source: Authors elaboration based on form responses (2020)

Most observatories emphasized that the data generated support decision-making by public managers (this being one of the precepts of smart tourism destination) (Vera Rebollo & Ivars-Baidal, 2014 Buhalis, 2015). Another relevant aspect is that these data can be used to guide strategic actions. A relevant example is one of the observatories established that “the numbers are always important to guide actions, in our case, for example, it has captured new flights, bringing improvements regarding the route network and access to markets”.

Besides the contribution to the generation of public policies, the data produced by the observatories are used *(i)* to direct public and private investments; *(ii)* economic feasibility studies for public-private cooperation projects in the tourism sector; *(iii)* correct event management failures as well as other general weaknesses in destination tourism management; *(iv)* strategically direct tourism promotion; and *(v)* format new tourism products and services.

Regarding the use of data produced by the observatories for the tourist trade, 78.6% believe they use it, while 21.4% believe they do not use it. Regarding the way these data are used, it is important to note that observatory representatives generally believe that the trade still uses these data incipiently. Uses for decision making; in targeting investments; in preparing fundraising application dossiers; in the planning and acquisition of financing in projects related to tourism activity; and monitoring visitor profile. They also point out the difficulty of obtaining data from the trade itself.

Thus, about 79% of respondents believe that it is possible to create a unified database on Brazilian tourism through the performance of the Brazilian Network of Tourism Observatories, and about 21% believe it is not possible.

It is understood that the initiative of the Brazilian Network should bring robustness to the formation of a network of researchers, as well as the systematization, structuring, evaluation, discussion, participation, stimulation of the production and dissemination of knowledge in the tourism area. The concept of networking from the perspective of Balestrin &Verschoore (2008) and Thompson (2003) aims to facilitate joint and integrated actions to achieve organizational goals by gathering attributes (in this case, tourism data) which will contribute to

competitiveness, supported by standardized information that will enable gains for the country.

Regarding the main obstacles to the performance of the Brazilian Network of Tourism Observatories (Table 2), the factors most quoted by the Observatory representatives who have responded to the form.

Main Barriers	Number of quotes
Lack of resources	4
Discontinuity of actions	3
Discontinuity of observatories themselves	2
No data sharing and communication platform	2
Lack of standardization of research methodologies	2
Lack of understanding by public managers and tourism trade about the relevance of the data produced	2

Table 2: Main barriers to network performance

Source: Authors elaboration based on form responses (2020)

Besides the mentioned factors, there were other aspects that should be highlighted, as follows: *(i)* lack of financial and logistical support to integrate research among network members; *(ii)* lack of time of Network members; *(iii)* lack of periodicity of meetings of the Network, and the respondent has already proposed a solution to this obstacle, with the proposal of periodic online meetings.

There are two important questions to be highlighted: the first one is a statement from one of the respondents: "The Network is unbalanced; each Observatory has its own origin (university, government, etc.) and it is therefore linked to political issues." And the second one is: "the lack of resources is also something to be taken into account, but I believe that one of the Network's proposals is precisely to reduce costs and rework over the team workers."

It was observed in the first statement, a concern about the interference of political issues on the observatories, and that can really impact them and the development / continuity of the researches. Still regarding this statement, the respondent emphasizes the unbalanced observatories due to their origin. About this concern, we consider whether these different origins could be responsible for the

richness and multiplicity of the Network. Regarding the second statement, it is noted that the respondent underlines something that is in the essence of networks, called collaborative work, which can contribute to lower costs as well as to avoid reworking teams.

When they were asked if the Brazilian Tourism Observatory Network is a smart strategy for the competitiveness of Brazilian tourism, 93% said yes and 7% said no. The way that the Network contributes to the competitiveness established by the respondents is showed below in Figure 2, represented by the most mentioned words according to the respondents, which are: information, data, measurement, monitoring, strategies, decision, efficient, and understanding.

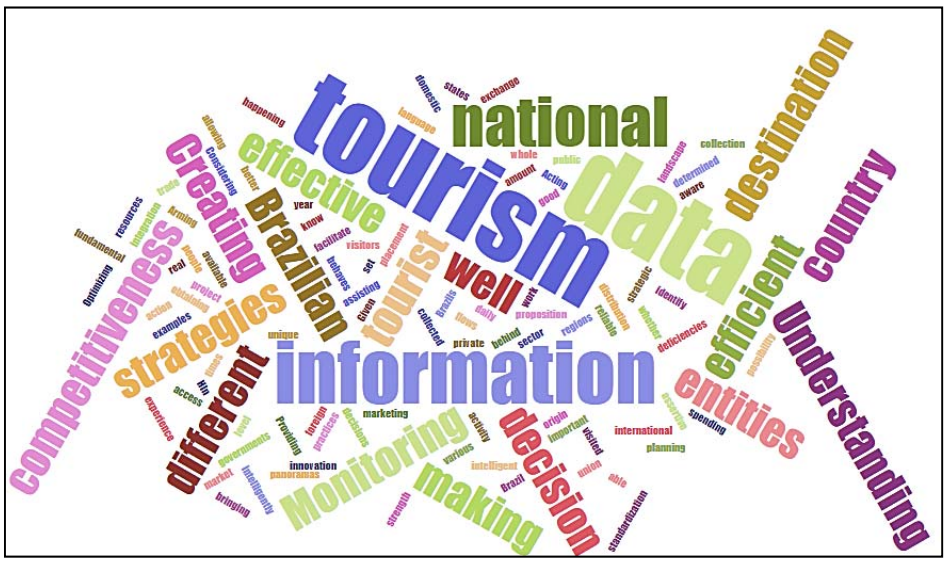

Figure 2: Word cloud mentioned by the respondents about competitiveness
Source: Authors elaboration with NVivo based on form responses (2020)

Also regarding the way the Network contributes to competitiveness, it is highlighted the following phrases from the respondents: “in the efficient and effective monitoring of collected data about Brazilian tourism, assisting in the marketing and planning tourism of “*Brazil Destination*” providing reliable information to governments and trade" and "acting smartly over the decision-making from several institution, whether public or private." Emphasis is placed on the understanding that the observatories contribute both to the planning and monitoring of the activity, publicly

and privately, as well as to the strategic positioning of the market as an international destination.

As pointed out by Lopez de Avila (2015) a smart destination is composed mainly of information and data, the initial bases of the knowledge management concept that give support to tourism managers to be able to direct strategies. Therefore, some Observatories in Brazil highlighted that one of the main items of production is basic information about tourism in the country, and this is the main support for these Observatories, becoming a reference in the production of tourist information in the destination where it is.

Still regarding smart strategy for the competitiveness of Brazilian tourism, is important to emphasize that the respondents have mentioned in the issue (competitiveness), two main words: sustainability and innovation. It is clear that some words like “information, data, measurement, monitoring, strategies, decision, efficient and understanding” also demonstrate the importance of observatories for competitiveness of Brazilian tourism globally and effectively.

In the National Tourism Plan 2018-2021 there is a drive to the strengthening of Tourism Observatories in Brazil (Brasil, 2018). Therefore, it was proposed to the Observatories to evaluate the federal government's support and encouragement to this issue (table 3).

Positive aspects	Negative or incipient aspects
Excellent, being the first step to encourage and enhance the activities of the Network.	Low, since the only effective support was a program for strengthening research and developing plans.
Positive, in the way of standardizing some study methodologies (such as tourism GDP).	Absent, there is lacking orientation initiatives for conducting research / data integration, and lack of encouragement to use technologies such as Big Data.
Fundamental and essential.	Still an incipient acting.
Since it’s a government role, it must be consolidating.	Negatively, there is lack of resources for observatories to initiate research and innovations.

Table 3: Opinion synthesis
Source: Authors elaboration based on form responses (2020)

Thus, it is identified a balance in the answers (positive and negative) above, regarding the Federal Government guidelines to understand the importance of tourism observatories. In addition to the summary presented, the opinion of one representative of an observatory must be highlighted: "... the support and encouragement of those who are already part of the Network (the states and municipalities) is more important than the Federal Government. Since we take ownership of our own, make ourselves 'feel at home', feel 'important' (in a good way) is something that should be felt by the participants rather than having a federal financial support". Summing up, there is concern about the empowerment of Network members rather than the financial issue. According to Friedmann (1992) the empowerment approach places the emphasis on autonomy in community decision making, local self-reliance, direct democracy and social learning and the empowerment process is essential for strengthening the Network.

Conducting researches in Brazil is complex issue, especially in tourism. Because this is not a prior policy in the country and in many states, investments are low and mainly directed to tourism promotion. However, with the support of universities this scenario tends to change, since there are resources directed to researches that support the accomplishment of such action.

The increasing number of tourism postgraduate programs at masters and doctorate level in Brazil has contributed to the enhancement of scientific production and information regarding the tourist territories. The idea is to collect this knowledge produced in a platform that may serve as basis for Research Centers, Observatories, and other agencies to have quick, efficient, and qualify access.

Brazil is still a pioneer in this aspect of tourist intelligence, including what Gretzel (2018) advocates as regional tourism intelligence, where it is assumed that data collection is at the local / regional level and then creates a wider network at the national level. Not all Brazilian states have tourism intelligence networks or observatories, and postgraduate programs are mostly concentrated in the south and southeast regions.

One of the negative aspects presented by this process incipience is the fact that concept of smart tourism and tourism intelligence is still not discussed in Brazil, and advances slowly in most Brazilian cities. For instance, data from the IMD World Competitiveness Center's Smart City Observatory (2019) among 102 Brazilian cities evaluated, only two have appeared in the ranking; Sao Paulo in the 90th position and Rio de Janeiro in the 96th (Bris, Chee & Lanvin, 2019). This fact ratifies what Bris (Director of the IMD World Competitiveness Center- 2018) has said "*Smart cities are growing and blossoming in all parts of the world. Economic realities cannot be ignored: cities in poorer countries face disadvantages, which will require specific actions to correct along the path towards smartness".* Brazilians cities are looking for this new process of smartness, and smart destinations, so these two conceptions must go together, because like Baibal, Monzonís and Sánchez (2016) states, smart tourism is configured upon three bases: 1) strategic-relational level, which focuses on preparation, strategies and planning; 2) contributory level, in which the activities relating to the required infrastructure for the development of a smart tourism destination are executed, and 3) application level, in which the gears and gages such as quality, corporate intelligence, and tourist information facilitate the employment of what was premeditated at the strategic level.

However, it is essential not only the state, but also the trade to support this initiative, by understanding which data generate knowledge, and that this knowledge can return as financial gains for companies. Because a smart destination (SD) is made up of several assumptions and variables that lead to a better positioning and decision making for the destination (INVAT.TUR, 2015). In this context, it was asked if the data produced by the Observatories could contribute to Brazil become a SD, and 78.6% said yes and 21.4% no. Following there are some of the ways indicated by respondents (Figure 3) on how Tourism Observatories could contribute for this:

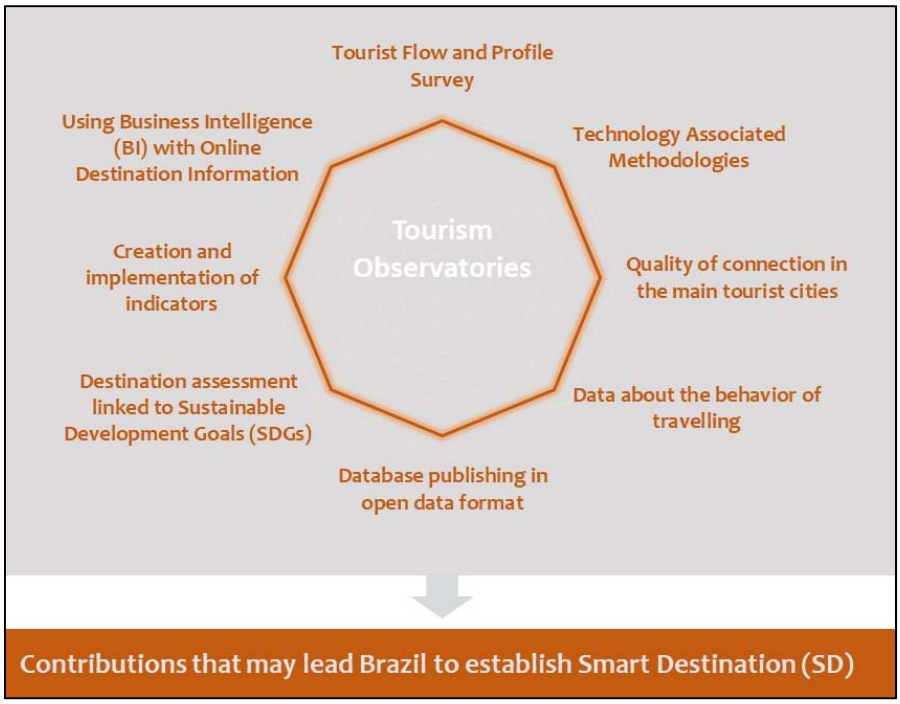

Figure 3: Some ways tourism observatories could contribute to the establishment of SD

Source: Authors elaboration based on form responses (2020)

The foundations of a SD are made up of numerous data that lead to information connection and may promote a positive impact and competitive results for destinations. The evolution of knowledge management has its data, with information, knowledge, insight, wisdom and, finally, the impact generated by such data raised. Therefore, if Brazil, as the second largest competitive leader in tourism in Latin America (WTTC, 2019), invests on the proposals in the figure above, it may grow towards the bases of a SD.

Respondent's awareness shows a set of several action options to transform destination into Smart Destinations. In fact, the understanding is fundamental, especially regarding issues of data consolidation, analysis, and connected indicators. However, little emphasis was given to online debate, data from other industries, or even a network connected from online software, platforms or even applications. Thus, demonstrating reasonable knowledge about Smart Destinations and the potential of technology and an intelligent network in the data crossing. Because a Smart Destination must be innovative, consolidated on a technological infrastructure that enables the sustainable development of the tourist territory, accessible to all, that

promotes visitor interaction and integration with the environment and improves the quality of their experience in the destination.

Thus, the responses consolidate the idea of the importance of research, data and connections, approaching what is expected of a smart destination, but the actions of innovation and technology are not so explained, developed or even in idea of those responsible by the Tourism Observatories.

Finally, it was asked if they believed that the Brazilian Network of Tourism Observatories could contribute to the implementation of policies and strategies in favor of SD, and 93% said yes and 7% no. As for the compilation of strategic information for the correct positioning of Brazil as a smart destination, the most mentioned words were information, development, data, decision, and creation (Figure 4).

Figure 4: Word cloud of the most mentioned words by the respondents about Brazil' position while SD
Source: Authors elaboration with NVivo based on form responses (2020)

Although most observatories could contribute to the implementation of policies and strategies in favor of smart destination, none of them quoted their contribution to the sustainable tourism development. It is not clear that the data they produce, may contribute to better choices for sustainability, being one of the pillars of SD. Perhaps this explains that only one Brazilian tourism observatory is part of the World Tourism

Organization (UNWTO) International Network of Sustainable Tourism Observatories (INSTO). There are several other countries with only one representation, but other countries, as big as Brazil, have more affiliated observatories, such as China, with 9 observatories in the network (UNWTO, 2019). This network has been created about 15 years ago.

Destination and competitiveness are linked to the concept of innovation, as pointed by Butler (1980) about life cycle of the destination, in which by getting to the stage of resignification, it is fundamental that the innovation is present, so this destination can be reinvented and constantly growing, as identified in Figure 4, Observatory respondents believe that to be an SD there is a mix of terms such as information and data (most prominent) that support the development, decision, creation and action. That means, to be an SD, the production of knowledge carried out by the Observatories supports a destination to reach the level of smart.

The elaboration of tourism public policies is based on primary and secondary data produced by various institutions. Therefore, with the existence of tourism observatories, there are several specific information that will strategically guide states and cities to lead their policies to the local reality, achieving more precisely the interests of visitors and residents.

Thus, the Observatories show themselves as a point of connection and interaction between research, and innovation. The interaction among members, allows this smartness of destinations to group data, not only through e-mails, sectorial working groups but others means. So, the increase of reference connected and analyzed data, may be better for the diagnoses and prognoses of a smart destination, helping sectors, researchers of the area and the society itself.

5. DISCUSSION OF RESULTS

Analyzing the responses sent by the observatory representatives to the online form, it was observed that the Observatories believe in the importance and necessity of the continuous development of research aiming at collecting data that correctly lead to the tourism activity in Brazil. Creating future scenarios that promote the development of smart destinations, based on a consolidated and structured data network.

On the other hand, it was identified that there is a need for the network to evolve as a network, because there is little integration of methodologies, actions, and strategies that are in fact characterizes a network, as established by Thompson (2003).

It is highlighted the awareness of Vera Rebollo & Ivars-Baidal (2014) regarding the concept of SD being based on a set of indicators, and the Brazilian Tourism Observatory Network is directly responsible for three of them: information systems, tourism intelligence and tourism information, therefore, there is no SD without information, without a network, and without intelligence. Blasco Franch & Cuevas Contreras (2013) and Santos & Mendes (2019) state that the Tourism Observatories are environments of knowledge and intelligence construction, responsible for leading public and private managers into decision making process.

This way, the results of the Brazilian Tourism Observatory Network are expected to show positive signs regarding the indicators of social, economic quality and sustainable tourism development, seeking the consolidation of a space that will allow the analysis of the dynamics of tourism activity in Brazil, as well as the development and application of research methodologies that may encourage the use of information and contribute to the management and qualification of the tourism destinations and regions where each Observatory is located in Brazil. According to Souza & Mollo (2009), it is believed that the tourism observatory will allow a form of information organization for the planning and monitoring of tourism in a participatory manner, using strategic methodologies through different perspectives.

Thus (Ham, Koo & Chung, 2019), competitive advantages for smart tourism can play an important role in ensuring tourism performance in the country. However, existing studies are limited as regards the competitiveness of smart tourism on three points. First, destination competitiveness research does not consider information technology as a major factor in tourism competitiveness; secondly, the literature suggests that the competitive structure for smart tourism is realized, but the conceptual framework is presented only, so we are dealing with the structuring of observatories for a smart destination; third point, greater competitiveness of destinations, so studies do not verify the relationship between competitiveness indicators and performance, lacking more data from this relationship.

Also, index data from the IMD World Competitiveness Center (2019) make it clear that the real test for smart cities is whether citizens feel the benefits. Not only the community, but the tourist visiting the destination, that is, the data and information produced by the tourism observatories will support the development of products and services that facilitate the tourist experience, making that destination competitive (Bris, Chee & Lanvin, 2019).

The challenges of the observatories relate to an exercise in rethinking the complex information management system that enables, from existing sources and data collection, to obtain useful information for strategic decision making by public managers and entrepreneurs. In this sense, the availability of local data, allows companies to better plan their investments, knowing the real demand and not only based on national averages that do not necessarily refer to the local reality.

Smart tourism development requires the articulated participation of all relevant *stakeholders*, as well as strong political leadership to achieve broad collaboration and consensus. Achieving smart tourism is an ongoing process and requires constant monitoring of impacts to introduce necessary preventive or corrective measures. Smart tourism should also aim for a high degree of tourist satisfaction and represent a memorable experience for them (Kim, Ritchie, McCormick, 2012; Aroeira, Dantas, Gosling, 2016; Alvares & Soares, 2019).

Destinations are becoming smart, and the impact on the visitor's life is high, as a set of technological tools being directed to the city / destination, meeting the wishes of the visitor, making cities more sustainable, and improving the quality of life for the people who live there [and making tourist experience much better] (Bris, 2019).

The final list of indicators to be determined for each observatory should not be considered as a definitive system. While indicators should remain consistent over time, the set of indicators can be adapted to the needs of the observatory's information user. That`s why several of the studied observatories should have a reevaluation system that allows us to eliminate unused data and focus on improving the system and efficiently presenting the information obtained.

Finally, in the analysis of responses, it was concluded that most respondents clearly define the importance of the data generated by the observatories for directing public policies. In general, they believe that the trade use data incipiently and admit

that research conducted by the observatories may contribute to the implementation of policies and strategies in favor of SD in the country.

Based on the literature review and the research carried out, the conceptual framework “Network of tourism observatories toward tourism intelligence” is proposed (figure 5). The tourism observatories have the function of capturing data and information from internal and external environments (tangible and intangible), bringing these together for the development and creation of knowledge that can contribute to support smart destination. In this context, the concept of smartness refers to the possibility to make something reducing its costs, its time, and its external (social and environmental) impact. At the same time, smartness refers to the ability to make a process in a more profitable way improving its social and economic positive impacts and externalities (Caputo et al., 2017). In other words, the data is worked to guide public and private managers in the development of public policies and strategies that can positively impact the tourism destination.

This knowledge produced is maintained by each tourism observatory. However, the creation of the Network of Tourism Observatories comes with the aim of bringing together the local knowledge, so that a “national mirror” is created about typologies, profiles, products, and services of the national destination. The integration of knowledge from the cooperation between the tourism observatories becomes what we call wisdom to generate a more accurate, efficient and effective impact on: interlocution of methodologies, open access to data, formation of time series, systematization of information that will support the elaboration of public policies and smart strategies, as well as backing the tourism trade decision. So, the network of tourism observatories prepares the destination to be smart based on strategic market intelligence, toward a regional tourism intelligence, like as established by Gretzel (2018).

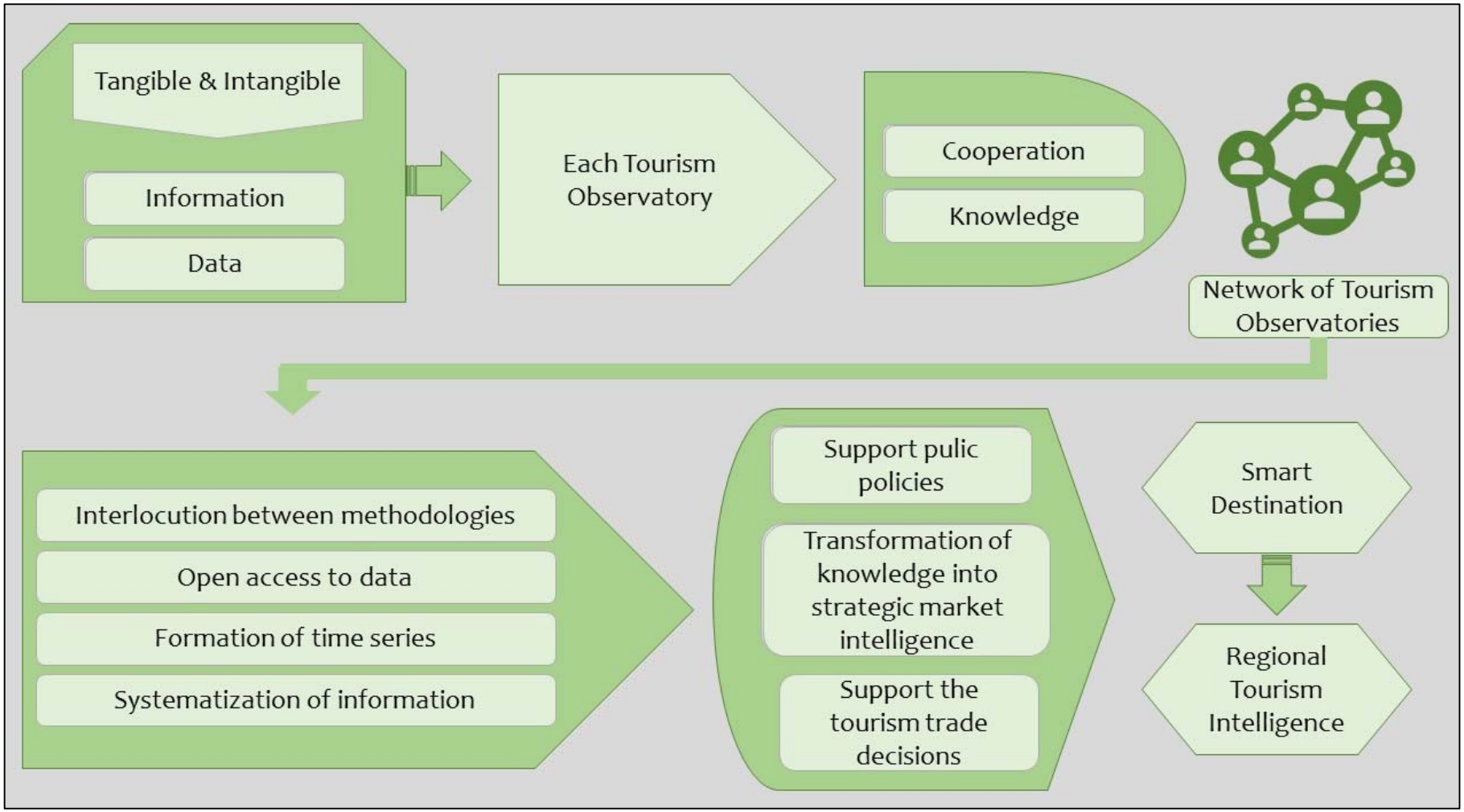

Figure 5: Network of tourism observatories toward a tourism intelligence

Source: Authors elaboration (2020)

Then, the networks of tourism observatories can collaborate to tourism destinations toward tourism intelligence. The challenges for networking are diverse and complex. Specifically, for the Brazilian Network of Tourism Observatories, in addition to the difficulties associated with interlocution between stakeholders from such different structures of observatories, in a huge country, there are methodological, technical and data availability issues. Another challenge for the managers of Local Observatories that makes the Brazilian Network of Tourism Observatories is to understand the necessary to have a integration of the researches to support the public policies, decisions and intelligent strategic, also the Tourism Ministry must look the Brazilian Network of Tourism Observatories as an important and official organization that will help the Brazilian destination became smart.

6. CONCLUSIONS

From the highlighted results it is possible to conclude that there is a lack of methodological standardization for conducting research, among them, the basic ones, such as tourism demand. Some observatories develop their research methodologies, others follow models from the Ministry of Tourism, and some adapt methodologies from other sources, which in terms of technical planning makes it difficult to compare and analyze data at regional/national level.

The non-continuity or periodicity of research is still a barrier for the Observatories, which depend mostly on public resources and with the discontinuity of management and with the alternation of government there is impact on research, studies and projects, impacting the creation of historical series.

Few are those who have their own website or page on social networks, which also hinders the dissemination of results. In terms of networking, it would be interesting to have a single website that can be updated with surveys of network members, making it possible to share information easily and understandably.

From the moment the proposal to create a network of tourism researchers that integrates universities, industry, public agencies and other institutions relevant to tourism it was discussed about possible obstacles to the development of this idea, such as the lack of resources to carry out the activities of the network and the small

staff of the institutions, which would overload professionals and discourage them from continuing the work.

Regarding the Observatory's human capital, none of the members of the network has professionals exclusively dedicated to it, which makes it difficult to conduct the work. In addition, the Observatory network started through the researchers' personal contacts, which initially constituted an informal network of people.

The current institutions that have met to exchange information and propose actions, should hold more continuous meetings, including the use new technologies (web conferencing, for example) to make the meetings feasible, as well as developing more coordinated actions. This articulation would lead to positive results, such as resource optimization in research development, based on national and international partnerships provided by the network; the holding of seminars and other training actions; besides the articulation with other Tourism Observatories of the world, which would stimulate the solidification and consolidation of the network.

The Brazilian Network of Tourism Observatories should be a network of researchers and entities with the main purpose of monitoring and assisting the development of tourism in the country, by collecting data, numbers, developing indicators and conducting research, and also act based on the following pillars: sustainable development, new information technologies and tourism innovation. It is noteworthy that the network has a leading role in structuring tourism intelligence and contributes to *(i)* the implementation of sustainable and innovative practices in destinations; *(ii)* consolidation of SD towards the development of regional tourism intelligence; *(iii)* improvement of tourism experience and *(iv)* increase tourism competitiveness.

A challenge faced in Brazil by tourism public managers, as well as private entrepreneurs, is the transformation of tourism data into strategic market intelligence. Then, the observatories have a great complaint that contributes to the process beyond the creation of data, the transformation of this data into knowledge and support the transformation of this knowledge into strategic market intelligence. And in this sense, the observatories have the potential to contribute to the creation of

regional tourism intelligence, and some observatories in the countryside have been operating in a regional level.

Therefore, this research offers meaning as basic research material added the conceptual framework that can be used to determine how tourism observatories could collaborate and contribute to high-performance tourism.

Thus, future research considers a more diverse factors than those used in current work, such as making comparisons with other destinations in the world that have tourism observatories networks.

And it is also important, as the technology of intelligent tourism is applied differently according to the attributes of destinations and is being passed on to other members of the observatories network, it is necessary to study the relationship between the attributes of smart technology tourism and destination attributes to understand how a network of observatories can build an expanded smart destination.

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Appendix - Questionnaire

1. How long has the Observatory been created?
Options: less than 1 year / between 1 and 3 years / between 3 and 5 years / more than 5 years

2. Is the Observatory formed by more than one institution?
2.1 If so, how many institutions are part of the Observatory?

3. What is the Observatory's main link?
Options: university / state tourism office / municipal tourism office / other
3.1 If the Observatory has another link, please indicate.

4. What research is carried out periodically?

5. What research has been done sporadically?

6. Do you publish the data?
6.1 If so, how do you publish the data?

7. Does the Observatory have any website or page on social networks?
7.1 If so, indicate the website and/or the name used in social networks.

8. Are the methodologies used by the Observatory developed internally?
8.1 If not develop internally, indicate which methodologies you use.

9. Is there any other partnership for the development of research methodologies with another Observatory/Observatories?
9.1 If so, please indicate which Observatory/Observatories has/have partnered.

10. Do you believe it is important to standardize research methodologies in tourism in Brazil?
10.1 Why?

11. Do you believe that the data generated by the Observatory are used to generate public policies?
11.1 If so, how?

12. Do you believe that the research results produced are used by the trade?
12.1 If so, how?

13. Do you believe that it is possible to create a unified database on Brazilian tourism, through the performance of the Brazilian Network of Tourism Observatories?

14. What are the main obstacles to the performance of the Brazilian Tourism Observatory Network?

15. Do you believe that the Brazilian Network of Tourism Observatories is an intelligent strategy for the competitiveness of Brazilian tourism?
15.1 If so, how?

16. In the National Tourism Plan 2018-2021 there is an indication of the strengthening of Tourism Observatories in Brazil. How do you assess the Federal Government's support and encouragement regarding this issue?

17. An intelligent tourism destination is composed of several assumptions and variables that lead to better positioning and decision making for the destination. Is there data that your Observatory produces that can contribute to Brazil moving towards becoming an intelligent tourism destination?
17.1 If so, how?

18. Do you believe that the Brazilian Network of Tourism Observatories could contribute to the implementation of policies and strategies in favour of smart tourism destinations?

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