Recommendations and proposals for an in-depth analysis of tourism flows of an urban reality for a better governance of the destination

Shortcomings of official statistics for an in-depth and timely analysis of tourism flows in a touristic destination

Urban Agenda for the EU Partnership on Culture/Cultural Heritage

Action 7 – Data collection and smart use applied to the management of tourist flows

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Disclaimer

1 Introduction

Not only because of the numerous production sectors involved in tourism, but above all because of the high economic and social impact that the phenomenon manages to generate, the numerous players in the entire tourism sector are looking with increasing attention to the availability of a solid, reliable and shared information system to which they can refer in order to recognise trends and prospects, understand and forecast potential trends, support territorial policies, and analyse and evaluate the impact of decisions taken. Although the systemic nature of the phenomenon is now acknowledged, statistical institutes and international agencies very often meet the information needs only through the publication of periodic analytical reports. However, the governance of local areas needs more detailed information, focusing on the specific features of individual destinations, which in the case of tourism are often not fulfilled by classic official statistical sources. Generally speaking, the very nature of the data collected by the appointed bodies, based essentially on the quantitative measurement of the phenomenon, over a certain period of time neglects aspects relating to the profiling and segmentation of tourist demand, which for a territorial system is now an essential information.

Moreover, according to the definitions adopted by the national authorities in their official surveys, a tourist is someone who stays at least one night. Arrivals are defined by the number of customers hosted in hotels in a given period. In the current practice, therefore, the number of tourists is improperly made to correspond to the number of arrivals of customers in accommodation facilities. If, on the one hand, the survey process fails to intercept the phenomenon of day-tripping, while on the other hand there is the risk of producing an oversized aggregate, in which the probability of counting the same tourist several times increases with the territorial dimension of reference. One only has to think of the foreign tourist who spends a holiday in our country (Italy) and probably plans a tour visiting different places and staying in different accommodations, thus generating a number of arrivals equal to the destinations visited.

As already mentioned, official statistics do not include day-trippers among tourists in the strict sense of the word, even though their contribution to the exploitation of environmental resources is decisive and practically indistinguishable from that of tourists. Day-trippers consume and use local resources, private and public goods and services (parking, nature trails, etc.), just like tourists. This makes the question of sizing the day-tripping phenomenon of relevant importance in tourism decision-making. However, the phenomenon is almost completely ignored by the information system defined at European level; and also, in Italy the information is particularly lacking and comes only from a few ad-hoc surveys.

The gap between the official data and the real data increases further with respect to their availability in a relatively timely manner, as they are often published with an average delay of at least two months, effectively hindering operational planning in the short-medium term. Further limitations of official statistics are represented by the overlapping of the bodies responsible for collecting data on "similar" phenomena, which increase the difficulties of "comparison", i.e. the possibility of placing information side by side and integrating it with information from different sources. It may happen, therefore, that by superimposing data on similar phenomena, but from different sources, discordant results are

obtained. The discrepancies found in many cases are simply due to differences in the classification of phenomena, detection methods, control procedures adopted, etc., so it is necessary to have a thorough knowledge of the characteristics of the data used. A concrete case, for example, might be the data on travel agencies operating in a specific destination. From the lists of authorisations to start-up the activity issued by the local authority, a certain number of activities can be detected, which rarely coincide with the number of businesses recorded in the register of active enterprises classified by ATECO codes (i.e. NACE codes translated by ISTAT (Instituto Nazionale di Statistica)[1] in Italy). The same situation may occur when the object of the information are the accommodation facilities.

The need for extended time coverage, for a more in-depth and timely analysis of tourist flows, as well as reflections on some of the main limitations of the current survey processes, justify the use of new models of data acquisition and interpretation with the aim of an increasingly marked integration between official statistics and ad-hoc surveys.

[1] National statistical institutes of the various countries

2 Destination monitoring systems

The lack of systems, as timely and objective as possible, for evaluating the performance of the destination and of the bodies in charge of its superordinate management, encourages attitudes and behaviours that are not functional to the pursuit of objectives of excellence. Accepting the hypothesis that quantitative and objective measures are a very powerful tool for control and motivation, there are more and more cases of development of methodologies and tools aimed at systematically monitoring the results of the main areas of tourism activity.

However, still today, a true destination information system has not yet been implemented, capable of periodically providing the information necessary for better management of the city/town, through the direct involvement of the organisations located in the area. The system should be structured looking at the complexity of the "destination" and rigorously defining objectives:

1. Identifying synthetic indicators to:
    - Monitor the overall degree of attractiveness of the destination (territory and population, degree of development of the transport system, notoriety of the destination, degree of inclusion of the destination in organised tourism channels, etc.);
    - Monitor the degree of attractiveness of specific areas of tourist activity (cultural, business, MICE, etc);
    - Monitor the degree of achievement of the strategic objectives that the destination has set itself;
    - Monitor the impact of meta-management actions on the performance of the district companies.
2. Developing the method for the construction of indicators; so, if some of them may be quite obvious (e.g. hotel saturation rates or average visitor days), other may require more complex studies. For example, an indicator to measure the seasonality of the destination or an indicator to assess the degree of "congestion" of the destination, measuring the attractiveness of minor attractions compared to the main attractions of the destination or even indicators of the impact of actions to strengthen cultural districts.
    - Identifying the sources to draw on to obtain the necessary data for the calculation of the above synthetic indicators;
    - Developing a system for the systematic collection of indicators;
    - Building a system accessible to operators and administrators of individual destinations.

The system of indicators shall include:

- Measures of the overall offer of the destination (not only accommodation, but also fair and conference facilities, catering, commercial activities, cultural activities, historical-artistic attractions and so on);
- Measures of performance and strategic behaviour (economic-financial analysis, price trends, occupancy rates, profitability, investments made and planned, etc.) of certain types of businesses in the destination (hotel structures, trade fair and congress facilities, cultural organisations, etc.);

- Indicators of the different components of demand (not only official tourists in accommodation facilities, but also day-tripper, undeclared tourists, extra-hotel presences analysed by category and so on);
- Not only result indicators (which by their nature describe the result of past actions) but also process indicators, which can help to identify possible future problems in advance.

3 Integrating official sources with other surveys

3.1 Tourism in European tourism realities: integrative and undetected indicators

The phenomenon of holiday homes, weekend tourism, daily tourism and transit tourism, the growth of campervanners and rented houses, but also the component of residents using a holiday period, constitute forms of tourism demand/supply which, in each territory, are neither officially analysed by any institutional source nor correctly estimated by experts in the field. The effects activated by all the tourism components never stop at the sole income and employment-creating impact but extend to the local authorities, to greater burdens on public services and finance, to the infrastructures of the area concerned, and to the interrelationships with the environment in a natural and social sense.

The purpose of this project is to quantify the real flow of people actually present in the territories, distinguishing the total impact in each single typological aspect and trying to remove in the best possible way the structural lack of direct statistical information and the underestimation that is sometimes wedged in the official data available in the form of *submerged* tourism.

Infrastructure requirements in general, such as motorways, car parks, parks, gardens, in fact exceed the number of residents and their needs; this also implies higher costs for budgets, but also difficulties in finding and allocating loans and financing for development projects. Although tourism activities bring wealth, the discomfort of those who live in a tourist destination is the result of an ‘overloaded’ life, of which people are often unaware precisely because the scale of the phenomenon is underestimated. The official data, in their historical reconstruction, are burdened by problems of statistical reliability and provide only partial coverage of the tourism phenomenon in the various regions, in terms of actual numbers of visitors and therefore induced employment and added value.

In order to contribute to solving, at least partially, these problems, we propose an **analytical report based on a rigorous methodology founded on the reconstruction and adoption of indirect indicators of the overall tourist movement**; in other words, the object of this work are all those forms of tourism supply/demand that in the various holiday and business tourism destinations are not officially analysed by any institutional source. The focal point of this research is the use of indirect indicators of presence, such as newspaper sales, garbage production, telephone consumption, motorway flows, etc., from whose distributions no single tourist escapes. All those who visit a place, irrespective of the duration, period, purpose, and type of trip, are 'measured' by these indicators in the form of the remains of a meal eaten, telephone traffic, the purchase of a newspaper, the toll at motorway toll booths, etc.

The importance of using these indicators lies in facilitating the breakdown of the total flow into the various residential and tourist types; in fact, three reasons for presence in an area are identified:

- **Permanent or overnight tourists** (users of hotels and other facilities, but also the large flow of tourists from holiday homes, whether owned or rented);

- **Transient tourists, the daily tourist or the day-trippers** (a high degree of sensitivity is required because it is not officially quantifiable and never analysed and because of the range of definitions that can be given from time to time);
- **Residential presences** (residents, holidays and periods of absence from the territory of residence/domicile, commuters for work and study reasons, people domiciled elsewhere, etc.).

A fundamental element of the method is the adoption of a modelling system centred on an 'additive' approach to the individual flow components, an approach that is completely different from other methods defined as 'subtractive-residual'. The model can start from the availability of data on waste production; the 'waste' indicator is undoubtedly the most valid one for identifying human presence on the territory. The integration of the sources for the research of the data among those available from the official statistics starts from:

- AUSL, i.e. Local health authority, regional lists (attending physician) by residents;
- ISTAT[2] matrix of commuters for study and work reasons;
- Stock of holiday homes from ISTAT Censuses 2011-2021;
- Electricity and Hydric consumption;
- Waste production;
- University students or other presences;
- Data available to Administrations (city access cameras, sensors, fines, use of local public transport, entrances to museums and natural, archaeological and cultural sites, etc.);
- Transport to destination (trains, buses, plane tickets, etc.);
- Accommodation capacity by type and demand flows in arrivals and presences by ISTAT;
- Registered structures and amount of tourist local taxes;
- Airbnb and a series of indicators found during the testing phase of the model construction.

3.2 The real impact of tourism

The impact generated by the real flow of tourists, including the submerged and undetected components, takes its cue from the difficulties faced by citizens, both in terms of dysfunctions and inefficiencies, and of real environmental deterioration.

The overload of traffic on the main roads, the saturation of parking areas, the resulting atmospheric pollution, the increase in waste production and the need to dispose of it, the dysfunctional water supply, the inadequate workforce engaged in public services, are just a few of the aspects that produce a net change in the 'expected' standard of living of local population.

The comparison between maximum and average annual values makes it possible to identify the areas at risk, i.e. those areas in which it can be assumed that local administrations will have to reckon with particularly high management costs precisely because of the difficulty, on the one hand, of sizing the effectiveness and efficiency of a "stable" nucleus of service supply structures and, on the other, of guaranteeing the accentuated elasticity that is inevitably demanded by end users (and, presumably, even by the providers themselves).

[2] National statistical institutes of the various countries

4 Linking tourism with territorial quality - challenges for a new concept of global tourism

The challenge is divided into two areas:

1. **Integration of statistical data** - the main requirement is to plan starting from a concept of tourism integrated productivity.
2. **Compass of territorial needs -** providing the system with a 'territorial compass'; a compass of quality and integrated wellbeing of broader performance, not only of GDP, a compass that guides the representation of the priorities to which the tourism sector is called to contribute for an excellent quality of life for tourists and locals and estimating the contribution of the sector to this performance.

It is a snapshot of the Year 0 that is proposed, not a simple evaluation and from a wide set of indicators and to be distinguished in typological families, of the European territories in a concrete, shared, homogeneous, and rational scale. The commitment is **the 'Simplification of Complexity'.** The territorial quality index is an index of 'Harmony' between the components; the basic concept of Sustainability, its environmental, economic and social axes, and the will to make prevail elements that facilitate the interaction between the agents of change and axes of sustainability itself, not those that indicate the interminable increase to be pursued regardless as in the case of GDP.

Sustainability of development exposes itself to the variability between territories and to the critical reading of the correlations between summary indicators and families of indicators that contribute to generate the **dynamic balance** sought by the concept under examination (Recommendation 11 in the Report for the Presidency of the Republic of France in 2009 by the Stiglitz-Sen-Fitoussi Commission on the Measurement of Economic Performance and Social Progress). Each territory will have a **global index of its integrated performance**, accompanied by values that explain its internal variability, i.e. they will tell us which of the families under examination are most influential in determining the overall value recorded, which is tantamount to receiving an initial indication of the main road towards which we must direct ourselves in order to define strategic lines of action, a clarification of who identifies the most effective lever for inducing transformations in the quality of good living. **The main road allows us to plan interventions aimed at improving it with the possibility of estimating the effects in the years to come**.

The method proposes a particular statistical analysis applied to specific groups of indicators, each of which can be framed in one of the three main axes: economic, social, and environmental. The interaction of the axis interprets sustainability at various levels and represents itself through a balance that is reinforced at higher values of the axes. The approach can be applied at a European local level and with reference to the main cities on the continent. The restitution of an integrated and dynamic concept of sustainability (as a marker of quality of life) will start from the adoption of a series of indicators (statistical variables) describing the wide range of aspects with which the concept of sustainability is expressed in its current manifestations. The indicators can be grouped into ten families, representing many key aspects of sustainability:

Table 1 The ten indicator families

Name of the family	Axis
Ecological awareness and best practices	Environment
Human Impact and Pollution	Environment
Biocapacity	Environment
Economic human resources	Economy
Economic structure and innovation	Economy
Demographic perspectives	Social
Education and training	Social
Cultural identity (Local attractiveness)	Social
Security	Social
Health care	Social

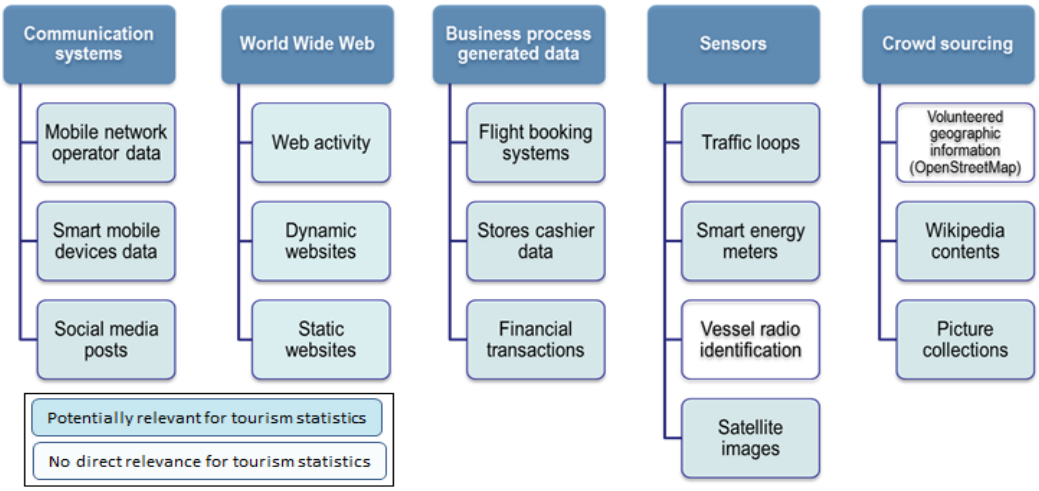
Sustainability, as a global index of integrated territorial performance, is manifested in cases where the territory expresses a balance between the demands made on it by human activities and work, and the environmental and natural resources that the territory makes available to meet these demands. On the basis of this definition, we will design a statistical model capable of representing the environmental sustainability of socio-economic development through the ten families described above, the three axes (i.e. environment, economy and social), constructed from the families themselves, and a quantitative assessment of sustainability, which takes into account the overall intensity of the three axes and their reciprocal relationship (balance), according to the following methodological approach. Tying the synthesis of the competitiveness expressed by tourism, in all its components, to this dynamic is a real strong point as it will allow us to sustain how and when these causal links, these effects result directly from the planning choices made, including tourism.

5 Connecting official statistics with big data

The acceleration of technology development is one of the main megatrends that have affected the tourism organisational system in recent years, through changes that have influenced and will continue to influence the way destinations and tourism businesses interact with travellers. In addition, technological advances within this sector have created and continue to register changes in consumer behaviour, creating significant opportunities for tourism destinations that gain a competitive advantage through the correct use of technology. Therefore, in this megatrend context, the role of data and customer information is crucial, on the one hand for tourist destinations and for a better governance of the destination itself, and on the other hand for the business system to provide an increasingly authentic, unique, and stimulating travel experience. Currently in the market we have an abundance of structured and unstructured data, which is passively generated by users, an abundance of data, publicly available and shared on social networking platforms, and customer data and information collected specifically from the booking systems of tourism organisations or customer relations, which are useful for extracting new insights or creating new forms of value, but fundamentally also for better destination management.

The latest travel industry reports confirm that big data analytics is one of the most influential elements that will impact the industry over the next five years, followed by artificial intelligence and the Internet of Things. However, this has subsequent implications for personal privacy and the subsequent data governance frameworks that tourism organisations must develop and implement to ensure competitive and ethical business practices. In this regard, bust be kept attention to the resolutions adopted by the European Parliament on the basis of Article 225 of the Treaty on the Functioning of the European Union (TFEU), specifically, the ‘Digital Services Act – Improving the functioning of the Single Market’ and on the ‘Digital Services Act: adapting commercial and civil law rules for commercial entities operating online’. So, it necessary to build an extended time coverage, a deeper and more timely analysis of tourism flows, as well as reflections on some of the main limitations of current survey processes, in order to justify the use of new models of data acquisition and interpretation with the aim of an increasingly strong integration between official statistics and other information sources represented by new technologies.

Figure 1 Taxonomy of big data sources[3]



[3] Tourism statistics: Early adopters of big data? 2017 edition, Statistical Working Papers, Eurostat

Data or index	Other connected data	Source Nature of source	For a fee yes/no	Exhaustive information yes/no	Used at the date yes/no	Frequency of data collection today Ideal frequency of data collection	Kind of survey	Delay in data supply at the date	Improvement to pursue for the future	Frequency of data supply at the date Ideal frequency of data supply	Process required Complexity	Intern. standard yes/no
Nr. of arrivals and overnight stays in official accommodation (ETIS)	Average length of stay (ETIS)	ISTAT / Eurostat Public	No	Yes, but not fully representing the phenomena.	Yes	Monthly Daily	Consumptive	1-2 months	Estimates on provisional figures	Monthly Daily	Yes Low	Yes
Nr. and type of tourists in official accommodation facilities – tourist tax (ETIS)		Municipality Public	No	Yes	Yes	Monthly Monthly	Consumptive	15 days	Automation on tourism data platform	Monthly Monthly	Yes Low	No
Nr. and type of tourists in official accommodation facilities – notification file (ETIS)	Average length of stay (ETIS)	ISTAT Public	No	Yes, but not fully representing the phenomena	No	Daily Daily	Consumptive	1 day	Automation on tourism data platform	Daily Daily	Yes Low	No

Nr. of visitors (official tourists, tourists in other accommodation, day-trippers) of touristic attractions of the destination	Estimated nr. of tourists/day-trippers visiting places of interest in the destination Nr. of tourist buses (and estimated number of tourists) arriving at the destination each day Estimated nr. of arrivals and overnight stays in other accommodation facilities Estimated nr of day-trippers per month (ETIS indicator)	Municipality	No	Yes	Yes	Monthly	Consumptive	1-2 months	Automation on tourism data platform	Monthly	Yes	No
		Public				Daily				Daily	Low	
Analysis of parking data in	Measuring group tourism and	Municipality	No	Yes	Yes	Monthly	Consumptive	1 day	Automation on tourism data platform	Monthly	Yes	No
		Public				Daily				Daily	Low	

the area (tourist buses and cars)	distinguishing between tourists and day-trippers											
Analysis of data on the main accessibility systems to the destination (airports, railway stations, motorways).	Data on the nr. of visitors (official tourists, tourists in other accommodation, day-trippers) in the destination	Management of local public services Public	Yes	Yes	No	Monthly Daily	Consumptive	1 day	Automation on tourism data platform	Monthly Daily	Yes Low	No
Analysis of tourist demand profiling: sample survey on an IT platform of users of tourist information offices and the main attractions in the area	Estimated nr. of arrivals and overnight stays in other accommodation facilities and number of day-trippers per month (ETIS indicator) % tourists / day-trippers satisfied with	Municipality Public	No	Yes	Yes	Monthly Daily	Consumptive	1-2 days	Automation on tourism data platform	Monthly Daily	Yes Low	No

	the tourist experience (ETIS) % visitors who regularly return to the destination (ETIS) Daily expenditure per tourist / hiker (ETIS) % of tourists/day-trippers by reason of travel											
Monthly collection and analysis of the main social trave, big data related to the reputation of all POIs (points of interest) in the area (hospitality, catering,	Estimation of the nr. of tourists/day-trippers visiting places of interest in the destination % tourists / day-trippers satisfied with the tourist	Big data Private	Yes	Yes	Yes, periodic survey	periodic daily	Consumptive	1-2 days	Open data for public administration	Periodic Daily	Yes Media	No

attractions, retail, vacation rents), mapping of points of interest, sentiment analysis of collected content.	experience (ETIS)											
Collection and analysis of data from tourism businesses of the destination (benchmarking of accommodation facilities - occupied rooms, turnover - daily/monthly), important stakeholders (convention bureau – congress / convention / exhibition	% room occupancy of hotels / accommodation facilities in the destination, daily and/or monthly (ETIS) Average daily / monthly expenditure in accommodation facilities (ETIS) Overnight stays and average	Local stake-holder	No	Yes	Yes	Monthly	Consumptive	Real time	Open data for public administration	Monthly	Yes	No
		Private				Daily				Daily	Low	

participant data) associations-cultural/sporting foundations (cultural and sporting event participant data)	expenditure of participants at events taking place in the destination (ETIS)											
Monthly data collection and analysis of the various online payment systems	Monthly (and/or daily) tourist expenditure on the destination (ETIS) Profiling of demand and the commercial system of the destination involved % of tourists / day-trippers by reason of trip Mapping of the touristic attractions system of the destination	Private	Yes	No	Yes, periodic survey	Periodic Daily	Consumptive	Real time	Open data for public administration	Periodic Daily	Yes Low	No

Real-time collection and analysis of transit data for the main tourist attractions detected by photocells or other detection systems (cameras) provided by the public administration	Nr. of days of the year when there is saturation near the main tourist attractions of the destination	Municipality Public	No	No	No	Daily Daily	Real time	Real time	Open data for public administration	Daily Daily	Yes Com-plex	No
Collection and analysis of mobile phone data	Estimation of the nr. of tourists / day-trippers in the destination on that day Analysis of the mobility system of tourist flows in the destination	Big data Private	Yes	Yes	Yes, periodic survey	Periodic Daily	Real time	Real time	Open data for public administration	Periodic Daily	Yes Com-plex	No
Analysis of data related to the transport	Nr. of expected bookings for	Management of local public services	No	Yes	No	Monthly	Fore-cast	Real time	Automation on tourism data platform	Monthly	Yes	No

systems accessing the tourist destination (air and rail reservation trends through the airports and railway stations of the destination; data analysis of motorway systems)	the specific destination at 4/6 months	Public				Daily				Daily	Low	
Analysis of booking data of the accommodation system of the destination and the planning of conferences/exhibitions/cultural events/sports events	Nr. of bookings at 4/6 months of hotel/reception system of the destination estimated number of participants in congresses/events/exhibitions during the period in which the	Local stakeholders Private	No	Yes	Yes, periodic survey	Periodic Daily	Fore-cast	Real Time	Automation on tourism data platform	Periodic Daily	Yes Low	No

	event takes place											
Data analysis of the main online booking systems related to the destination	number of bookings in 4/6 months of hotel/reception system of the destination, through otas	Big data Private	Yes	Yes	Yes	Daily Daily	Fore-cast	Real Time	Open data for public administration	Daily Daily	Yes Low	No
Monthly collection & analysis of queries & content on major search engines (Google)	% of people doing tourism-related searches for the destination	Big data Private	Yes	Yes	Yes, periodic survey	Periodic Daily	Fore-cast	Real Time	Open data for public administration	Daily Daily	Yes Low	No

Table 2 Other useful data for the governance of the destination

Other data collection	Indicators
Index of perception of destination safety on some foreign tourist markets	Periodic analysis of the perception of safety of the destination in the various foreign tourist markets that target the destination
Collection and analysis of the main attractions of the area: analysis of the main tourist guides (online and offline)	Mapping of places of interest in the main information channels displayed by the demand side
Analysis of the destination service system (accommodation, catering, tourist guides, travel agencies, information offices, NCCs, taxis, museums, parking, public transport)	Mapping of the entrepreneurial system of a destination involved in the organisation of personal services (ETIS sustainability indicators (% of accommodations using certifications/marks aimed at sustainability)
Economic impact of tourism on the destination (destination tourism satellite account)	Relative contribution of tourism to destination economy % GDP (ETIS)
Ongoing survey of people employed in the sector	ETIS sustainability indicators (direct employment in tourism and % of total destination employment - % seasonal jobs in tourism)
Collection and analysis of the main intermediary operators (tour Operators) operating on the destination	Mapping of the intermediation system of the Destination and analysis of the main products sold on the market related to the destination
Periodic survey on the social, economic, and environmental impact of tourism on the local community	Satisfaction level of residents

6 Summary - recommendations to the EU institutions for a common European framework for data collection and analysis

6.1 Recommendations based on the analysis of the European Statistics Regulation[4]

The strong development of tourist flows over the years pre-covid[5] and the consequent effect on the life of the resident population has brought to the attention the need to draw on new tools to measure values in real time in order to govern the phenomena. The environmental aspect and the interaction between the community of residents and that of the visitors, to be understood as a unicum, require to broaden the field of phenomena studied and to lower more the measurement of the effects on the territory. The system activated by Regulation 692/2011, subsequent acts, and amendments, remains a fleeting framework in its general structure, but requires an effort to speed up the provision of information and further integration with other sets of values: social, economic, environmental, and geospatial, to govern a phenomenon that could otherwise lead to a sort of self-suffocation.

6.2 Recommendation based on the analysis of the statistical sources

Among EU countries, there are methodological differences, which can lead to doubt of the homogeneity of the results and signalise that one system of data must pass through some standardisation, including on methodology.

The tourism statistic system of Spain respects the recommendations of Eurostat and UNWTO in its general organisation. However, we can easily see by comparing Italy and Spain that a common set of data represent a road with many challenges. Between the two countries, there are methodological differences, which can lead to doubt of the homogeneity of the results and signalise that one system of data must pass through some standardisation, including on methodology. For example, we can refer to what has always been considered the main analysis of tourism results: the survey on arrivals and overnights in accommodation facilities. The Italian system is based on a unique system for any official accommodation: hotel, complementary and open-air accommodation. The survey is made with the mandatory transmission of data by the managers, referring to every day's situation. The Spanish system, on the other hand, differentiates the survey system according to the type of accommodation facility, adopting also different methods. For hotels, the calculation of arrivals and overnights is made with an estimate based on a representative sample. For other accommodations facilities the methodology can change, based on sample or on universe data collection, depending on typology and location. Working on a sample basis, albeit representative, even being valid at the level of large territorial areas, gradually loses its value going down into smaller territories, unless different samples suitable for each area studied is build. Even other surveys, although aimed at the

[4] REGULATION (EU) No 692/2011 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 6 July 2011 concerning European statistics on tourism and repealing Council Directive 95/57/EC (Text with EEA relevance).

[5] According to the OECD and other international observers, it is estimated that the tourism sector will return to pre-covid flows in the year 2023

knowledge of the same phenomenon, are not completely aligned between Italy and Spain. At the same time, we should note that Spain has adopted innovative methodologies, such as site scraping, to gather information on new phenomena such as the offer of accommodation born from the pier-to-pier economy.

In conclusion, the systems of detection of the phenomena related to tourism still has to deal with differences within Europe. Despite the framework of common information, produced in compliance with community indications, the alignment of the data has yet to be fully verified. On the other hand, the timing of data supply is a common problem: no official system to date provides daily values and forecasts, elements on which the good management and planning of tourist cities must be based.

6.3 Recommendation based on the analysis of the shortcomings of official statistics

The need to have an extended time coverage, a deeper and more timely information of tourism flows, as well as reflections on some of the main shortcomings of the current survey processes, justify the use of new models of data acquisition and interpretation with the aim of an increasingly strong integration between official statistics and ad hoc surveys. Bearing in mind the need to set up a reliable survey system for awareness, analysis and management of the tourism phenomenon in an urban destination, it would be advisable for all "destinations" affected by significant flows of visitors, either on a local or regional scale, to set up coordination between the public and private sectors to define approaches and strategies to be adopted in the collection of detailed information and the processing of this information through shared and effective processing techniques. At the same time, it is absolutely necessary to encourage the involvement of tourism businesses, as well as the main local stakeholders, in building the information system by means of reward mechanisms for all those who voluntarily decide to share data. It is essential to also extend participation to the bodies/organisations that provide services to residents and tourists alike; information on the volume of production activated would help estimate the various aggregates of additional demand in the area: tourists and day-trippers.

Another aspect that should not be overlooked is the possibility of incorporating a series of administrative data into the territorial information system, which would in fact represent a low-cost support for statistical analysis, without neglecting certain limitations in the use of such data, inherent in the fact that their collection was designed and carried out for purposes other than statistical ones. In general, for each of the following references the effective contribution to the improvement of the information framework for the analysis of the tourism phenomenon and its impact on the territory should be assessed, provided that they are available in a timely manner:

- Registers of businesses directly and indirectly involved in tourism, available from the "economic development" offices of local authorities, from those enterprises fully operational to those with a temporary suspension of activity;
- The legal form, main characteristics and sector of activity of businesses directly and indirectly involved in tourism as recorded in the registers kept at the chambers of commerce;
- The profitability of certain types of tourism enterprises as shown from the archives of balance sheets submitted to the chambers of commerce
- Data on visitors and ticketing revenues of museum sites (local authorities, state, universities, etc.);

- Data related to mobility services used at destination (access permits, parking, passengers on urban lines, etc.);
- Data on households and their residence in order to distinguish the actual occupation for housing purposes of the existing properties in the destination;
- Data on the sector's employees and on the employment needs of companies, which can be obtained from the institutions reporting to the Ministry of Labour or other bodies that promote the matching of supply and demand.

6.4 Recommendation referring to the operational proposal presented

A data collection system that provides in-depth analysis of a destination's tourist flows must be based on certain fundamental points:

1. **Type of data:** quantitative and qualitative
2. It must consider that the **data** may be of **public origin** (the surveys envisaged by legislation on tourism statistics) or of **private origin** (data processed through web analysis, data on credit card transactions, data on mobile phone use, etc.);
3. Data provided **for fee from private suppliers**, even if not exhaustive for the comprehension of the phenomena, can be important for the general understanding of the situation. For the availability of a continuous picture of the situation, data supply cannot be sporadic but must be structured as a continuous one. This would generate cost proportioned with the volume of data needed. Since the set of data needed to understand the complete panorama of tourism refers more and more to private sources, would be necessary to develop a framework of rules and uses between public and private, bypassing the problem of privacy, many times improper, referring to the use of aggregate data. Even more since such data collection contributes to immediate decision making or strategy drafting in the interest of resident and traveler communities
4. **Temporal phase** of people's tourist action: knowledge of what has happened (FINAL - with an analytical report within 15 days at the latest), awareness of what is happening in real time at the destination (REAL TIME), awareness of what should happen 3/6 months after the survey (FORECAST). The official statistics system can only analyse the final report of the sector, whereas today good governance of the sector needs to know in real time the phenomenon in the destination and have reliable forecast models;
5. It must consider all the **different types of visitors** to a destination (i.e. those who stay in destination's traditional accommodation facilities, in facilities not officially surveyed, day-trippers, etc.);
6. The level of seasonality of many tourist destinations is no longer monthly, but weekends or some days of the week: daily seasonality. Currently, the data on customer flows in accommodation facilities is monthly. In some areas we are registering pilot projects with data sent daily by the accommodation facilities to the local system;
7. Profiling/segmentation of the destination's tourist demand by travel reasons;
8. Integration of statistical data – it is necessary to start from a concept of tourism productivity that:
    - Includes the issues introduced by the analysis of the tourist flow as the sum of several reasons for presence in the area, not only the permanent presence in official accommodation facilities

- includes items not covered by ISTAT[6] statistics
- Does not stimulate awareness of the true value of the sector

[6] National statistical institutes of the various countries

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