Smart city and smart destination planning: Examining instruments and perceived impacts in Spain

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ABSTRACT

The impact of technology on tourist cities and destinations has led to the emergence of renewed management approaches that seek to adapt the planning processes to new challenges and opportunities derived from the *smart* scenario. The smart city and smart tourist destination approaches are aimed at improving efficiency in management, the quality of life of the residents and the tourist experiences. However, little is known about how these ideas are being translated into real policies and whether they are having a real impact. The objective of this paper is to understand how the smart approach is being deployed in the planning processes of Spanish tourist cities and destinations, and its implications in terms of the governance, sustainability and data-driven public management. The planning instruments that guide the smart strategies of different Spanish cities are identified and analysed. This is complemented with a questionnaire administered among managers of the smart city and smart destination initiatives. The findings reveal the diversity of smart initiatives, their benefits and limitations. The results contribute to generating a necessary debate on the implications of the smart discourse for urban and tourism planning and enrich the international debate around this approach.

1. Introduction

The tourism activity is constantly changing. The emergence of new paradigms derived from the development of technologies and the new associated demand profiles, have generated structural transformations and challenges for planning urban tourism spaces (Dredge & Jamal, 2015; Ivars-Baidal & Vera Rebollo, 2019; Saarinen et al., 2017). The intensive use of information and communication technologies has revolutionised tourism (Buhalis & Law, 2008; Hjalager, 2013), giving rise to a digital tourist who intensively uses *smart technologies* (Femenia-Serra et al., 2019; Gretzel, Sigala, et al., 2015; Neuhofer et al., 2015). Hence, new digital ecosystems emerge, creating the need of a management that ensures sustainability, the competitiveness of destinations and avoids imbalances (Boes et al., 2015; Gretzel, Werthner, et al., 2015; Ivars-Baidal et al., 2018; Xiang & Gretzel, 2010).

The current tourism scene is characterised by technologies that have enabled a connection between the physical and digital environments (Buonincontri & Micera, 2016; Celdrán-Bernabeu et al., 2018; Gretzel & Jamal, 2020; Gretzel, Sigala, et al., 2015; Liberato et al., 2018). This is the so-called *smart scenario*, which countries are integrating into their agendas through different strategies aimed at achieving higher levels of sustainability (González-Reverté, 2019) and innovation through technology (Gretzel & Jamal, 2020). The smart scenario is a challenge for destinations, but also an opportunity to improve the planning and management processes, generating the possibility to develop a plan based on knowledge and innovation (Huang et al., 2017). This smart destination (SD) approach is based on the precedent established by the discourse and policies related to smart cities (Del Chiappa & Baggio, 2015) and has been applied in countries as diverse as South Korea, China, México or Spain in the past years.

To date, no comparative analysis has been made between smart city and smart tourist destination initiatives. Very few studies have considered tourism as a factor to take into account in smart cities (Romão et al., 2018). Furthermore, the growing importance of tourism in cities contrasts with its marginal presence and even absence in different indicator systems and rankings of smart cities (Ivars-Baidal, Celdrán-Bernabeu,

et al., 2021; Ivars-baidal, Vera-rebollo, et al., 2021). The study of tourism in the smart city is clearly insufficient and an in-depth analysis of the connection between the smart approach and the governance of tourism in cities and destinations is required (Gretzel et al., 2016). This analysis is more necessary in light of the expansion of the tourist demand before and after the COVID-19 pandemic, which economic and social impacts, particularly in cities, have forced the re-thinking of its integration in urban policies. Digitalisation is a factor that has contributed to the generation of a new urban tourism, as it has facilitated the mobility, concentration (hotspots affected by overtourism) and dispersion of visitors in the city, affecting the quality of life of the residents. At the same time, technology is part of the smart solutions addressing the new urban challenges derived from tourism (Gretzel & Koo, 2021; Koens et al., 2021; Lee et al., 2020). It also participates in the new planning approaches in Spain, one of the leading countries in international tourism, which has been developing a highly ambitious programme for the promotion of smart destinations for more than ten years.

The main objective of this study is to better understand the smart approach in planning and management processes of tourist cities and destinations by analyzing the case of Spain. This objective can be broken down into two specific objectives: (i) to identify and characterise the smart planning processes in Spanish tourist cities and destinations; (ii) to explore the perceived impact of smart initiatives in terms of governance, sustainability and public data-driven management. Analyzing these aspects from a critical, in-depth perspective is fundamental for understanding the real impact of the smart discourse on the strategic processes of cities and destinations. This standpoint will render valuable learnings for scholars, cities and policy makers across different countries. This study sheds light on vital aspects in the development and the evolution of destinations in their quest to achieve a better governance (Choi et al., 2021), resilience against crises, such as that caused by COVID-19 (Choi et al., 2021) and sustainability (Ivars-Baidal, Celdrán-Bernabeu, et al., 2021; Ivars-baidal, Vera-rebollo, et al., 2021). Moreover, this research contributes to enriching the existing scientific knowledge and literature on smart cities, particularly in terms of the role that tourism plays within the smart discourse and mindset. It also facilitates a better understanding of the interaction between the smart city and the smart destination regarding the type of planning instruments being implemented in both urban and tourism spaces. This contribution will also give rise to new perspectives on smart policies from a critical and practical point of view and will activate unexplored frameworks for the analysis of both smart cities and destinations in the manifold regions where this mindset is being applied.

2. Literature review

2.1. The duality of smart cities and smart destinations

The definitions of smart cities have, so far, been dominated by two different positions. According to Mora et al. (2017), on the one hand, the smart city has been understood by some researchers and large technological companies as an interconnected city, mediated by technology and based on data management aimed at achieving greater efficiency in its functioning. On the other hand, other authors have regarded the smart city in a more holistic way (e.g., Caragliu et al., 2011; Giffinger et al., 2007), as an urban space that also tackles accessibility, governance, sustainability and human and social capital.

Building on these preceding principles, smart destinations (SDs) constitute a new tourist planning and management approach with similar structural objectives (greater sustainability, reinforcement of the principles of governance, accessibility, increasing innovation), and are articulated through specific solutions, often of a technological nature (Femenia-Serra & Ivars-Baidal, 2021; Ivars-Baidal et al., 2019; Soares et al., 2021). Although the emphasis in the development of the SDs was initially focused on technologies (Buhalis & Amaranggana, 2014; Boes et al., 2015; Lamsfus et al., 2015; Koo et al., 2016), the consolidation of

this approach requires the real development of a strategic plan and relational conditions that ensure a correct implementation of the model (Ivars-Baidal et al., 2017; Ivars-Baidal et al., 2019). Thus, the SD has to be necessarily linked to ethical principles and a governance defined through planning instruments (Gretzel & Jamal, 2020).

The technological dimension, however, still seems to be dominant in many conceptualisations of both smart city and smart destination projects (Grossi & Pianezzi, 2017), generating growing criticism. In this respect, Vanolo (2014) identifies the smart city as an urban imaginary which combines the green city with technological futurism to offer a technocentric view of the city of the future. This view is associated with neoliberal urban policies that serve the interests of the large technological companies, favour the privatisation of public services and technological dependency, reduce the privacy of citizens and contribute to depoliticising urban management under "technological solucionism" (Greenfield, 2013; Kitchin, 2015; March & Ribera-Fumaz, 2014; Morozov, 2015; Söderström et al., 2014; Townsend, 2013; Vanolo, 2014). The complexity of the different actors involved in the planning and implementation of the smart cities make it difficult to find consensus between the different discourses (Kummitha & Crutzen, 2017). The systematic webometric exercise conducted by Joss et al. (2019) identifies the smart city with a global network discourse, criticised as a "place-less" corporate-governmental discourse with global interconnections. Similarly, smart destinations seem to suffer from some of the same problems, such as the short-termism perspective, privacy issues (Femenia-Serra et al., 2022), the lack of public participation and the emphasis of technological solutions that are far from the real problems of the territories (Grossi & Pianezzi, 2017).

The smart city vision as a global discourse has been transferred to the SD as a persuasive concept that favours the rhetoric of the SD as an ideal destination (Gelter et al., 2020; Gretzel & De Mendonça, 2019). This predominant narrative requires a critical view, even though existing research has already indicated the lack of progress in fundamental aspects. These flaws include environmental sustainability (Ivars-Baidal, Celdrán-Bernabeu, et al., 2021; Ivars-baidal, Vera-rebollo, et al., 2021) or the scarce use of applications aimed at improving the tourist experience in smart city environments (Rocha et al., 2021). Within this context, understanding the perspectives of the different actors involved in smart city and smart destination projects and the deployment of discourses into real policies is fundamental (Kummitha & Crutzen, 2017).

Despite the origin and characteristics of the smart city and smart destination, there is often a disconnection on a local scale between the smart city and tourism strategies (Soares et al., 2021). In this sense, Gretzel and Koo (2021) advocate the use of technology to manage the mix of work, leisure and mobility activities that overlap in urban spaces through the Smart Tourism City concept, a new model of governance in which the postulates of the smart city and the smart destination converge. It involves a more holistic scope and includes both residents and tourists according to the fuzzy boundaries between them (Frisch et al., 2019; Gretzel & Koo, 2021).

2.2. Planning smart cities and destinations: a global and multifaceted reality

Although the smart city has been criticised for seeking to be a "one size fits all" approach (Kitchin, 2015), understanding the planning processes associated to the smart city requires a knowledge of its diversity and its changing nature. Although Angelidou (2014) warns that little is known about the planning of the smart city, the consideration of the three smart city development models summarised by Halegoua (2020) serves as a reference for delimiting different models: the "smart from the start cities", such as Songdo in South Korea or business district developments of a larger city associated with a top-down master plan (Komninos, 2015); "retrofitted smart cities", which incorporate digital infrastructures and data analysis to drive urban governance and

management (Halegoua, 2020); and "the social smart city", which emphasises the participation and co-creation of citizens through the use of technology, applying open innovation planning schemes.

This research fundamentally focuses on the retrofitted smart cities, although it also contemplates the social approach of the smart city in accordance with the evolution of the smart strategy of cities such as Barcelona (Cardullo & Kitchin, 2019). In any case, this classification can be qualified through other criteria relating to strategic choices (Angelidou, 2014): national versus local strategies; new versus existing cities; hard versus soft infrastructures-oriented strategies; and sector-based versus geographically-based strategies. Along these lines, Komninos and Mora (2018) proposed a dichotomous classification based on four variants: technology-led or holistic strategy; double or quadruple helix model of collaboration; top-down or bottom-up approach; mono-dimensional or integrated intervention logic.

Furthermore, the hype surrounding smart cities leads to a considerable gap between the adoption of this policy and the real results (Clark, 2020). It is necessary to address the diffusion processes of this approach, which has converted the smart city into a global discourse network (Joss et al., 2019). On an international level, companies have exercised a significant influence in the way in which smart city initiatives are conceived and managed, such as the IBM Challenge, developed between 2010 and 2017 (Alizadeh, 2021). Performance rankings (Cities in Motion Index, China Smart City Performance, UK Smart City Index, etc.) or indicator systems (Sharifi, 2020) as well as international standards for Smart City promoted by the International Organization for Standardisation, the International Electrotechnical Commission or the International Telecommunication Union, have also played a role (Lai et al., 2020). These initiatives are partly inspired by urban innovation networks, often led by third-sector intermediaries (philanthropists or NGOs), which have their analogies with networks created around sustainability (Local Governments for Sustainability, constituted in 1993) or resilience (Rockefeller Foundation's 100 Resilient Cities Program, created in 2013) (Clark, 2020). This scheme has been transferred to the smart city domain in initiatives based on challenges such as the Intelligent Cities Challenge, promoted in 2020 by the European Commission, or the Smart Tourism Capitals initiative, also created by the Commission. In this way, the organisations and initiatives that drive the diffusion processes of the smart city contribute to defining the dimensions, methods and instruments for diagnosing smart cities and designing the corresponding smart plans and projects.

In terms of research, different studies have proposed theoretical models or strategic guidelines for the development of the smart city. In this regard, Komninos (2015, p.15) affirms that the "new planning paradigm of intelligent/smart cities has been forged by academic research and experimental city projects". Despite the conflicting views in smart city planning (Kummitha & Crutzen, 2017), derived from the complexity of the very concept of the smart city, some common conclusions in literature can be found. These include the need for an integrated smart city strategy which goes beyond technology and promotes a broad collaborative model through participative processes, a top-down coordination, better information and knowledge for decision-making and the stimulus for innovation processes (Alizadeh, 2021; Angelidou, 2014, 2015, 2017; Ben Letaifa, 2015; Borsekova & Nijkamp, 2018; Fernandez-Anez et al., 2018; Komninos, 2015; Bolici & Mora, 2015; Mora et al., 2019).

From this perspective, the priority of the development of the smart city shifts from technology to smart urban governance, which integrates technology, human capital and collaborative governance (Meijer & Bolívar, 2016). In this way, the global discourse of the smart city aspires to a transforming governance (Joss et al., 2019) that induces critical views, such as that of Halegoua, (2020, p. 116) who considers that the "smart cities don't promise to change power relations, systems of governance, or the politics and priorities of those systems, only how information is gathered, analyzed and displayed". Along these lines, Nesti (2020) does not find evidence of a profound transformation of the

structures and processes of the local administration derived from the development of the smart city and questions the democratic legitimacy and degree of representativeness of the governance structures of the smart city (Nesti & Graziano, 2020; Vanolo, 2014).

This complexity is also present in smart destinations, a concept clearly influenced by the smart city. The principal lines of research in terms of smart destinations are focused mainly on technology, the tourist experience and the conceptualisation and characteristics of the SD (Bastidas-Manzano et al., 2021). However, analyses on the consideration of SD as a new approach to tourism planning, such as Soares et al. (2021) based on Hall's (2008) framework of tourism planning, reveal the existence of differential attributes in the underlying assumptions and the definition of planning problems, methods and generation of new conceptual models related to destination planning and management (Cimbaljević et al., 2019; Ivars-Baidal et al., 2019). In fact, the adoption of the SD approach in Spain has led to the design and development of a new planning model used by more than 400 destinations belonging to the Spanish SD network. This approach is spreading to Latin American countries such as Mexico or Colombia, within a process similar to the international diffusion of the smart city model. China is another pioneer in the development of smart tourism, combining initiatives of the China National Tourism Administration (CNTA) with the importance given to tourism in the national smart cities programme (Wang, Loo, & Huang, 2022; Wang, Zhen, et al., 2022).

In the analysis of smart city and smart destination strategies, local case studies or comparisons between several case studies are predominant. However, studies that address national strategies and their associated programmes are scarce despite their relevance (Angelidou, 2014). This development of smart cities and their implications have been studied in relation to national policies in countries such as Australia (Li, Shan, & Wang, 2020), Belgium (Desdemoustier et al., 2019), South Africa (Söderström et al., 2021), USA (Clark, 2020) or different Asian countries (Joo & Tan, 2020), particularly China (Wang, Loo, & Huang, 2022; Yang & Ye, 2020). This study addresses the planning of tourist cities and destinations in Spain based on the smart approach. Spain stands out due to its adoption of the international discourse on the smart city and the creation and international diffusion of a SD programme among other countries, particularly in South America.

3. Methodology

This paper combines qualitative and quantitative techniques to obtain a more holistic and critical perspective of the planning processes (see Fig. 1). This methodology is suitable when addressing complex and multifaceted problems, because enables richer and more consistent results (Bryman & Bell, 2011; Teddlie & Tashakkori, 2010). Specifically, this study uses a sequential methodology in which qualitative and quantitative methods are used successively and the results are presented in an interrelated way in order to gain a deeper understanding of the phenomenon analysed (Tashakkori & Teddlie, 1998).

First (1), a bibliographic and documentary analysis was performed. In order to analyse the planning processes, the instruments and academic studies explaining the evolution of tourism territorial planning in Spain were identified and studied. In parallel, websites and public projects related to smart cities and destinations were analysed. These basically consisted in the initiatives promoted by the National Plan of Smart Cities and the smart tourist destinations programme promoted by SEGITTUR.

Next (2), the group of plans to be analysed was selected, initially made up of the cities included in the Spanish Network of Smart Cities (RECI). The sample was made up of a total of 83 cities, which amounted to the total number of urban areas belonging to the network when data were collected. In accordance with the objectives of this research, a series of criteria was applied to this initial group of cities based on the volume of tourist accommodation supply, the level of development of smart initiatives and their attraction capacity, in order to select those
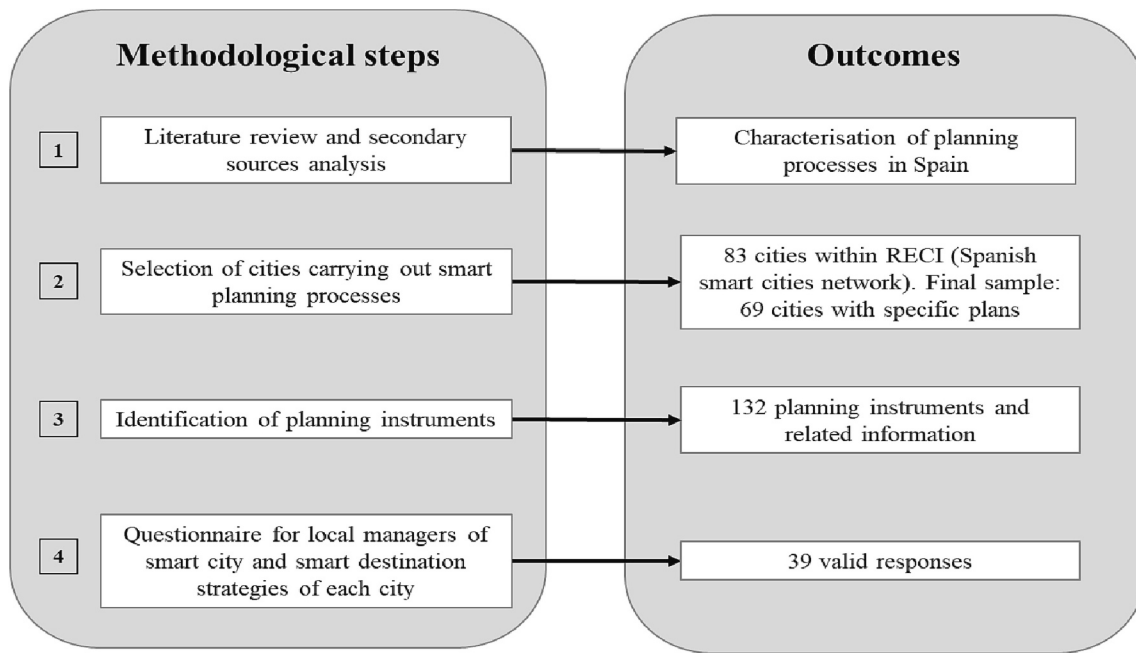
Fig. 1. Methodological process
Own elaboration.

cities that combine the development of smart initiatives with a relevant tourism activity.

After applying these inclusion criteria, the initial sample was reduced to 69 cities that develop smart initiatives within their urban and tourism planning processes in Spain. Taking this sample of cities, the third selection phase was carried out (3). This was a search strategy

aimed at identifying the different planning instruments on a local scale in these places. Using the *Google* search engine, a total of four search tags for each of these cities were executed and the first 20 results were analysed. In total, 132 planning instruments were identified in the period 2010–2019, together with related online documentation, mainly drawn from official websites. This information can be found in the
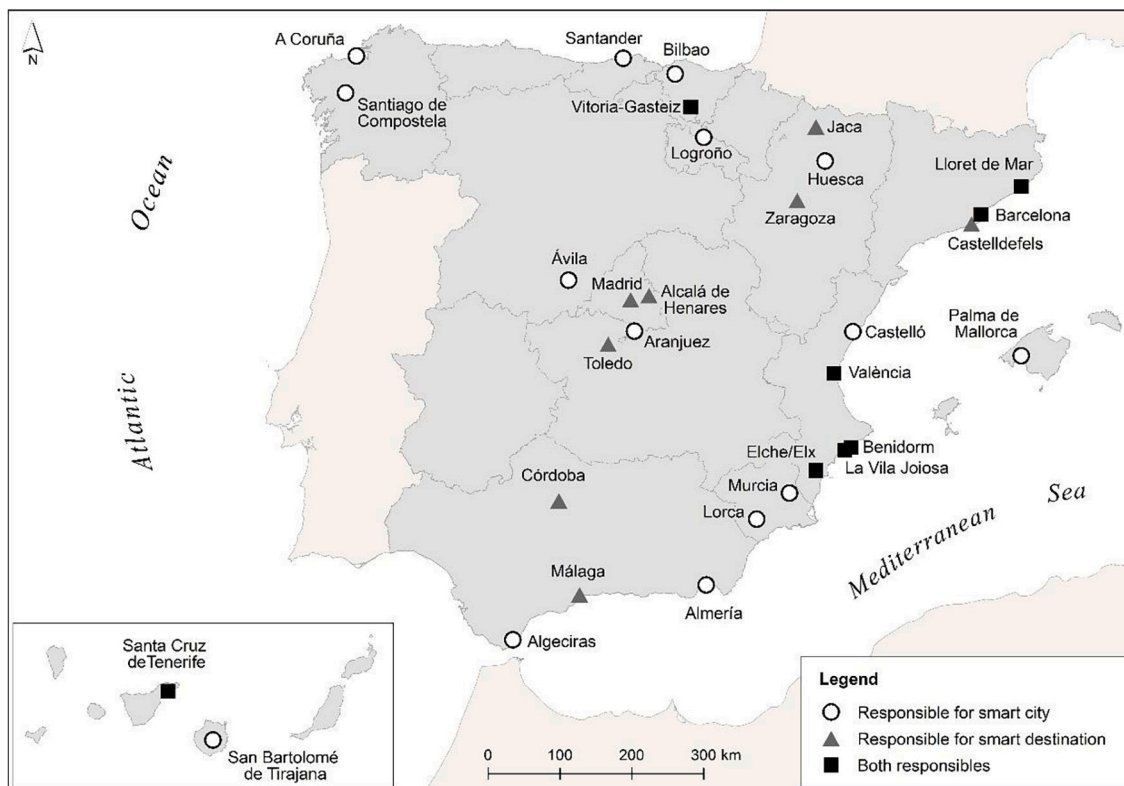

Fig. 2. Distribution of the cities that responded to the online questionnaire
Own elaboration.

supplementary materials of this article. As it can be observed in these materials, plans are classified into categories according to the initiatives developed and types of policies: EDUSI (territorial-urban policy), RED. ES (technological policy), SMART CITY PLAN (local initiative), SMART DESTINATION PLAN (tourism policies) and OTHER (mainly innovation and digitalisation plans). The validity of the plans was confirmed through a telephone conversation with municipal technical staff of each city. In other words, their representativeness in relation to the smart strategy developed by the city was ratified. A classification process was carried out on this final group of plans, which enabled us to characterise the instrumental development of the smart strategy in Spain.

In order to compare the information, in the following phase (4), an online questionnaire was designed for the experts responsible for the smart city and smart destination strategy of each of the selected cities. The questionnaire sought to obtain more specific information regarding the planning processes and how the experts responsible for the initiatives perceived their impacts. This dual perspective was applied in order to measure the scope and degree of coordination of the smart initiatives with an urban and tourism perspective. The sample coincides with the 69 selected in order to analyse the planning instruments. This questionnaire was administered online, using the *Qualtrics* software between June and December 2019, obtaining a total of 39 valid questionnaires: 23 from smart city experts and 16 from smart destination experts. Fig. 2 shows the cities that responded to the questionnaire and whether they did so as a smart city, destination or both. The questionnaire is included as supplementary material.

The questionnaire, based on seven-point Likert scale questions, dichotomous questions, and a few open questions, was structured into three sections: characteristics of the smart initiatives; evaluation of the impact of the smart initiatives on the different areas of management, identification of priorities and barriers; degree of use of the data for the management of the city.

The profile of the interviewees can be observed in Appendix A. Smart City managers are predominantly heads of department/service and most of them are male (65.22 %). They mainly come from technical engineering backgrounds. On the other hand, smart destination managers are usually tourism technicians or heads of tourism departments. The background of these managers is quite diverse (geography, journalism, computer science), although there is a higher presence of tourism graduates. A greater gender balance is observed in this management profile, although males are still predominant (56.25 %).

After classifying the plans according to the previously described methodology, the characterisation of the smart approach in the urban and tourism planning processes was conducted. The results of the analysis are presented below, first relating to the public plans and programmes of smart destinations and smart cities in Spain, and second, to the questionnaires through which the perspectives of the experts responsible for their management are reflected.

4. Results

4.1. The public programmes and their catalysing effect on the smart strategy through the plans

In terms of the type of plans, the results of the study reveal a predominance of those related to the Integrated Plan for Sustainable Urban Development (EDUSI), with a percentage of 38.7 % of the total plans, followed by plans and projects associated with Red.es (28.1 %), smart city plans (19.7 %) and other initiatives (12.1 %). Only two advanced SD plans (Benidorm and Palma de Mallorca) have been considered within the SEGITTUR programme because the rest belonged to municipalities with a small population or had a low level of deployment. As this programme applies the same planning model, the two plans studied are representative of this type of instrument derived from Spanish tourism policy. Consequently, in accordance with the type of plans, around 65 % are associated with a public financing programme, which seem to be the

catalyst of the smart approach in urban and tourism planning in Spain. However, from a financial point of view, the difference is noteworthy between the EDUSI plans, which exceed an investment of 1300 million euros, and the Red.es projects which, in the tenders considered, account for an investment of 138 million euros.

Financially, the EDUSI programme is framed within the structure and investment funds of the EU. The EDUSI plans are applied to cities or urban areas of more than 20,000 inhabitants. The development of the smart approach in this programme is related mainly to Objective 2 (Improving the access to, use and quality of ICTs), whereby the EDUSI plans also link ICTs with environmental and social objectives from a transversal perspective. A distinct characteristic of EDUSI plans is the existence of guidelines formulated by the Urban Initiatives Network (RIU, for its acronym in Spanish). Furthermore, EDUSI plans are made up of social participation processes, involving local agents and evaluation and monitoring indicators (Casado et al., 2018), and contribute to a renewed strategic territorial planning (Farinós, 2016), in which urban sustainability and ICTs play a central role.

Red.es is the national public body responsible for the development of the Digital Agenda in Spain. Red.es' initiatives, funded by the European Regional Development and the European Social Funds, are part of the digital transformation policies for cities and destinations through the development of smart solutions. SEGITTUR (State-owned company for the Management of Innovation and Tourism) coordinates the Smart Destination Program in Spain since 2012. It also involves the creation of a smart destinations standard in collaboration with AENOR, the national standardisation agency. AENOR standards coexist with the "Smart Destination" label given by SEGITTUR to municipalities. SEGITTUR's methodology is based on five pillars; governance, innovation, technology, sustainability and accessibility; and two management cycles: (1) diagnosis and planning, and (2) execution and monitoring. This led to the constitution of the Spanish SD Network in October 2018, which has almost 400 members (destinations, companies and institutions), as of November 2022.

Table 1 shows the comparison between the three initiatives. The initiatives converge in applying the smart approach from different perspectives: the development of an integrated sustainable development plan, the application of new technologies to urban and tourism management and support for becoming an SD. However, from a territorial point of view, the differences are substantial. The EDUSIs are partly based on geographical factors, in both the selection of the area of action and the integrated diagnosis and solution proposals for urban problem and they adapt to the unique nature of the local scale. On the other hand, the Red.es projects focus on improving the technological issues thus they develop a fundamental role in the deployment of technology in the territory (sensoring, improvement in connectivity, etc.). Finally, SEGITTUR's SD methodology is sectoral, but acknowledges the territorial dimension of tourism as it includes the sustainability of the destination (Iglesias Rubio et al., 2018). Therefore, technology is a central aspect of the Red.es projects, a fundamental pillar for the SEGITTUR's SDs, and has a transversal nature for the EDUSI initiatives.

Regarding governance aspects, both the EDUSI and the SD initiatives propose well-designed processes, thanks to the guidelines of the RIU and SEGITTUR respectively. This fosters greater coordination between administrations, a better adaptation to the local reality and the requirement of social participation in the EDUSI plans. Social participation is lacking in SEGITTUR's SD initiatives, whose diagnosis and proposals are based on interviews with municipal managers and business representatives of the town under study. The development of the Red.es projects also has the limiting factor of the low level of involvement of local agents and a greater dependence on the technical quality of the project and its economic cost. These projects are also conditioned by complex administrative contracting processes leading to significant delays in execution. Nevertheless, the interviews held with the managers of Red.es projects indicate that the applied technologies favour the digital transformation of the administrations and generate a learning process. The use of

Table 1

Comparison of the basic characteristics of the EDUSI, Red.es and SD-SEGITTUR programmes.

Basic characteristics	EDUSI	RED.ES	SD SEGITTUR
Scope	Integrated sustainable development plan	Technological project	Diagnosis-Action Plan
Territorial approach	Central aspect	Technological deployment in the territory	Area of action
Sustainability	Central aspect	Between 12 % and 16 % of the evaluation criteria according to the tender	Fundamental pillar (among others)
Technology	Transversal	Central aspect	Fundamental pillar (among others)
Guidelines	RIU Guidelines	Competitions for grants	SEGITTUR methodology
Selection criteria	Degree of adaptation to problems and urban challenges	Technical soundness	Voluntary adhesion
Social participation	Fundamental	Unplanned	Highly limited
Collaboration between administrations	Central-regional-local	Red.es-Contracting administration	SEGITTUR-Collaborating administration
Learning/extension of institutional capacity	High	Significant: digital transformation of the administration	Significant: digital transformation of tourism management
Use of indicators	Monitoring and evaluation	Project monitoring	SEGITTUR system: Five fundamental pillars
Average financing	High	Medium-low	Cost for local administration

Own elaboration.

indicators is closely related to the development and justification of EDUSI and Red.es initiatives, while the SEGITTUR's SD methodology contemplates the application of a system of indicators and their periodical updating to maintain the SD distinction.

From a financial point of view, the EDUSI initiatives mobilise a higher volume of investment, although the cost of the Red.es projects is not negligible. It is interesting to note that, in the SD tender of Red.es, large-scale technological projects were selected in the field of tourism, worth almost six million euros, which was the maximum amount, as opposed to a larger number of projects that would benefit more destinations with a lower investment. The SEGITTUR programme has a cost for the administration concerned but its contributions are useful for capturing external funds.

In order to gain an overview of how the smart approach is being included in tourism planning, five analysis categories have been established for each of the plans analysed: (1) data capture; (2) analysis; (3) data crossing; (4) communication and (5) indicator systems. These categories summarise the influence of the smart approach on the traditional tourism planning processes. Specifically, the value of the data to establish new levels of smartness in the destination that improve both the tourist experience and the planning and management processes (Gretzel, Sigala, et al., 2015).

From the point of view of (1) data capture, practically all of the plans analysed include the gathering of data from new information sources; different types of sensors for providing different types of data (meteorological, air pollution, noise pollution, etc.), social networks, mobile phones, credit card transactions, etc. In the (2) data analysis, references to Big Data techniques are frequent and, specifically, (3) data crossing of the different sources and/or layers of information is related to the availability of a smart city management platform, an essential tool also in the (4) communication of information, a field in which open data is incorporated in order to improve the transparency of information and favour innovation with respect to the free exploitation of the databases. Finally, when defining (5) urban indicator systems, there are very few plans that consider standardised systems and, of the cities that use them, we can highlight the ISO37120 applied to cities such as Barcelona or Valencia.

On the other hand, the analysis of the plans reveals the intention to substantially improve the information for urban and tourism planning with the use of ICTs within the smart approach. Public aid programmes clearly promote this goal given priority to the availability of Spatial Data Infrastructures in the selection criteria of Red.es. However, the transition towards these new territorial information systems, is complex and slow. In this respect, different academic studies that define the current situation of the international scenario may be of interest: urban management platforms (Barns, 2018); planning support systems (Pettit et al.,

2018); urban dashboards (Young & Kitchin, 2020); or Big Data (Li et al., 2018).

Therefore, the analysis of the plans indicates three key issues:

(1) Planning processes are slow due to legal issues (contractual), technological factors (difficult integration and interoperability of the systems) and organisational aspects. Digitalisation requires the overcoming of the compartmentalisation of administrative competencies.
(2) Experimental projects with a certain technology are confused with structural change. For example, projects that analyse big data are ad hoc and are not definitively integrated into the municipal organisations, either internally or through externalised services.
(3) There are notable differences between a small group of more advanced cities and the rest of the cities, where the implementation processes are slower and stimulated by public aid programmes. The most prominent initiatives include the municipal dashboard, the open data portal, geoportal and open-source sensor-actuator network "Sentilo" of Barcelona; or the Dashboard, geoportal and real time information platform "Valenciaalminut" of Valencia.

4.2. Smart initiatives in practice: the perception of the managers

The questionnaires conducted among the smart city and smart destination managers complement the picture drawn from the analysis of the plans. As previously argued, the smart destination concept is an adaptation of the concept of smart cities. For this reason, it could be expected that the degree of implementation of projects is more advanced in urban destinations. In order to capture these differences, this section differentiates between the responses given by smart destination managers and by smart city managers. Both smart destination and city managers enjoy a common background as they belong to the same networks (RECI, SEGITTUR) in which methods, norms and public documents are shared and discussed. This facilitates their understanding of this research context, the used questionnaire and its items.

In Fig. 3 we can observe a comparison of the situation of the Smart cities and smart tourist destinations in terms of the management and execution of the smart strategy. This enables us to better understand the early stage of development of the initiatives in both cities and tourist destinations.

The obtained results indicate a certain level of coordination of the smart strategies with other city plans and strategies, as 72.2 % of the smart city strategy managers and 50 % of the smart destination strategy managers state that the projects are correctly aligned with other plans
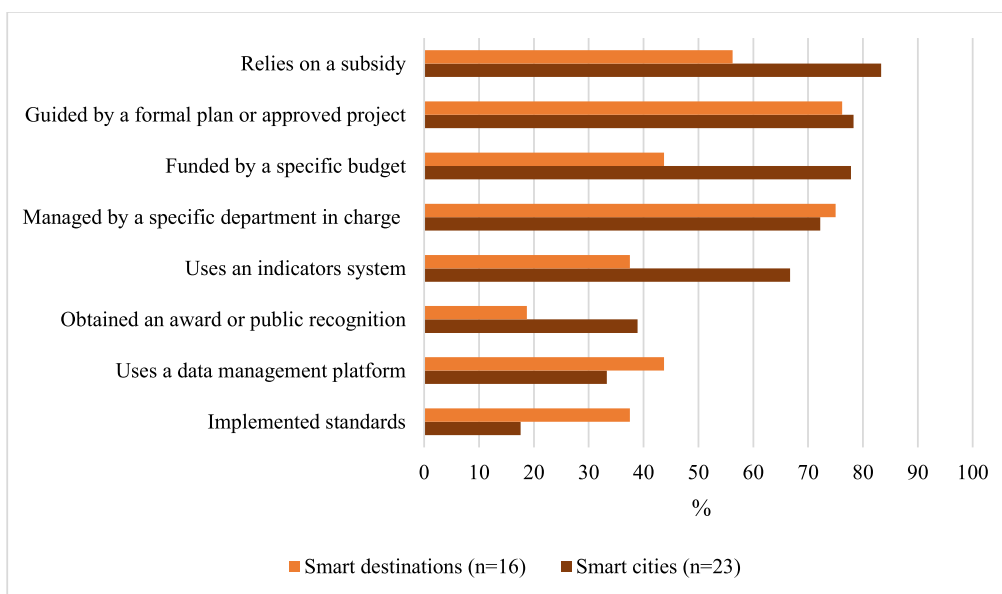
Fig. 3. Characteristics of Spanish smart city and smart destination projects (according to surveyed local officers)
Own elaboration.

and strategies of their respective cities, such as the EDUSIs. These smart strategies are guided by specific plans or official projects in more than 75 % of cases. Therefore, they respond to a strategy agreed by consensus. However, the questionnaire also shows that the perception of the local experts is that the real execution of these projects is still low, as stated by 44.4 % of the smart city project managers and 50 % of the SD project managers.

The development of these projects is in the hands of municipal entities designed for this purpose (specific local government departments or DMOs) in the majority of cases (more than 70 %). Assigning the development to a specific department can ensure a more exhaustive supervision of the project but, at the same time, hinders its transversality. On the other hand, as we can observe in Fig. 3, each of these projects has its own budget, which in the majority of cases, depends on public subsidies (83 % in the case of smart city projects and 56.25 % in the case of smart destination projects), subject to specific deadlines. On the contrary, the use of data management platforms is still very low, perhaps due to the large investment required for their implementation. With respect to the use of management indicator systems, a clear divergence between cities and destinations can be observed. While in the former there is a high presence of indicator systems (66.7 %), in the destinations this presence is clearly low (37.5 %).

Finally, 68.75 % and 78.3 % of the smart destination and smart city strategy managers respectively report having difficulties in the implementation process of the projects. In an open question, both destinations and cities reveal certain limiting factors, such as the lack of resources, the high cost of the technology involved in the development of the strategy, the lack of interdepartmental coordination in the organisations, and the low level of public-private collaboration. To this we can add that the improvements derived from these projects only become visible in the medium to long term, which exceeds the political cycle and limits the involvement of the government.

4.2.1. Implications for governance and sustainability

The questionnaire, based on a Likert scale (1–7), also evaluates the impact of the smart initiatives on different dimensions of governance and sustainability. The results reveal a positive evaluation of the impact perceived by the smart initiative managers. The findings vary in accordance with the factors and reveal room for improvement. The value of 5 has been taken as a reference. This marks the threshold of a positive agreement and a small deviation from the averages can be observed.

In the factors relating to governance (Table 2), the perceived improvements in transparency and services for citizens stand out. Interdepartmental collaboration is rated positively by the tourism managers but less positively by smart city strategy managers, with an increase in the divergence. Furthermore, the lack of interdepartmental coordination, while improving in the smart processes, is one of the barriers most frequently referred to in the open questions. Citizen participation is rated positively in both cases, while the monitoring and control of public policies does not reach a value of 5 among the smart city managers. Public-private partnerships barely reach the threshold of 5 despite their importance for generating an open and collaborative innovation environment that enables the development of smart projects. Public-private partnerships participate in the notion of the triple helix as the knowledge base of the urban economy (Leydesdorff & Deakin, 2011), although the triple helix approach tends to be replaced by the challenge of achieving the quadruple helix, emphasising a greater integration of civil society (Mello Rose, 2021).

From the point of view of sustainability, the interviewees agree that the smart initiatives have favoured a more sustainable city with values of 5.86 for tourism managers (with a standard deviation of 1.09) and 5.61 for smart city managers (with a standard deviation of 1.5).

Table 2
Evaluation of the managers of the impact of the smart strategy on different factors related to governance. "The smart strategy has had a positive impact on…"

Values of 1 "completely disagree" to 7 "completely agree"	Smart destinations (n = 16)		Smart cities (n = 23)	
	Mean	Standard deviation	Mean	Standard deviation
Transparency in management	6.21	1.05	5.70	1.42
Public services aimed at citizens	5.93	1.07	5.74	1.45
Interdepartmental collaboration	5.64	1.27	5.04	1.94
Citizen participation	5.57	1.34	5.57	1.56
Streamlining public spending	5.54	1.19	5.04	1.87
Monitoring and control of public policies	5.50	1.40	4.96	1.79
Public-private partnerships	5.38	1.32	5.17	1.46

Own elaboration.

On an environmental level, the best rated factors are the benefits observed in energy efficiency and the promotion of sustainable mobility, two aspects which traditionally receive European co-financing. The rest of the factors have been given favourable evaluations, although lower. The smart city managers do not observe positive impacts on the protection of biodiversity and the urban ecosystems and the reduction of noise pollution. In this aspect, an unpaired Welch *t*-test of mean differences ($t = 2.09$, p-value = 0.04) indicates a significant difference between the perception of destination managers and smart city managers. The air quality and mitigation of climate change also obtain low scores among the smart city managers. This highlights the need for more ambitious urban environmental policies. The generation of better information for management is important but it is not enough to resolve urban problems (Tables 3–5).

In the economic dimension, prominent aspects are those related to innovation and the improvement of the city's image, a factor which is inseparable from the smart city as an urban marketing strategy (Hollands, 2008; Söderström et al., 2014). The effects on competitiveness are referred to by different authors (Boes et al., 2015; Koo et al., 2016; Rucci et al., 2021). The difference between the opinion of the SD and smart city managers is more noteworthy within the usual pattern of lower evaluations of the latter. In fact, unpaired Welch *t*-test of mean differences points to a significant difference between the perception of destination managers and smart city managers for the items "Collaboration with universities and research centres" ($t = 1.99$, p-value = 0.05) and "A more innovative city" ($t = 1.73$, p-value =0.09). There is agreement with respect to the positive effect of the smart approach on competitiveness, related to innovation processes which are evident in big cities but not so clear in tourist destinations.

In the factors related to social sustainability, universal accessibility for disabled people receives the best evaluation in line with the importance given to this issue in the smart approach (Rucci et al., 2021). The managers perceive a contribution to greater social inclusion, as opposed to critical perspectives that associate the development of the smart city with possible social exclusion processes (Willis & Aurigi, 2017). According to the smart city managers, a reduction in tourist overcrowding has not occurred thanks to the smart approach, in line with the studies questioning the impact of smart solutions in this field (García-Hernández et al., 2019). On the other hand, the level of safety has very low values.

4.2.2. The use of data as a differential factor of smart planning

The view obtained from the assessment of the plans related to data use for management was complemented with the perception of the daily practice of city and destination managers through the questionnaire.

Table 3
Evaluation of factors related to the environmental dimension of sustainability. "The smart strategy has had a positive impact on…"

Values of 1 "completely disagree" to 7 "completely agree"	Smart destinations (n = 16)		Smart cities (n = 23)	
	Mean	Standard deviation	Mean	Standard deviation
Energy efficiency	6.21	0.8	5.57	1.7
Promotion of sustainable mobility	6.00	0.96	5.87	1.39
Waste management	5.71	1.32	5.39	1.77
Air quality	5.64	1.15	5.17	1.72
Protection of the biodiversity and the urban ecosystems	5.64	1.27	4.61	1.80
Traffic management	5.57	1.28	5.65	1.55
Quality of urban public spaces	5.57	1.01	5.35	1.64
Mitigation of climate change.	5.50	1.34	5.17	1.55
Sustainable public transport	5.50	1.28	5.52	1.67
Water cycle management	5.46	1.39	5.57	1.67
Reduction of noise pollution	5.43	1.08	4.91	1.62

Own elaboration.

Table 4
Evaluation of factors related to the economic dimension of sustainability. "The smart strategy has had a positive impact on…"

Values of 1 "completely disagree" to 7 "completely agree"	Smart destinations (n = 16)		Smart cities (n = 23)	
	Mean	Standard deviation	Mean	Standard deviation
Collaboration with universities and research centres	6.14	0.94	5.22	1.90
A more innovative city	6.07	0.91	5.26	1.95
Better image of the city	6.07	1.14	5.74	1.48
Support to entrepreneurship	5.93	0.91	5.35	1.77
A more competitive city	5.79	1.05	5.13	1.68
Attractive for business	5.64	1.21	5.13	1.76

Own elaboration.

Table 5
Evaluation of factors related to the social dimension of sustainability. "The smart strategy has had a positive impact on…"

Values of 1 "completely disagree" to 7 "completely agree"	Smart destinations (n = 16)		Smart cities (n = 23)	
	Mean	Standard deviation	Mean	Standard deviation
Universal accessibility	5.86	1.23	5.43	1.64
Greater social inclusion	5.54	1.12	5.05	1.52
Reduction in tourist congestion	5.14	1.16	4.41	1.96
Level of safety	5.08	1.31	4.95	1.70

Own elaboration.

Table 6
Degree of use of data, tools, techniques and types of analysis in the management of smart cities.

Values of 1 "completely disagree" to 7 "completely agree" (n = 23)	Mean	Standard deviation
Big data	3.64	2.03
Data crossing	4.14	1.80
Real time information	4.23	1.66
Predictive analytics	3.64	1.67
Open Data	5.23	2.04

Own elaboration.

Table 6 shows the degree of the use of advanced data in city management, according to the smart city managers. Only the creation and use of open data exceeds the agreement threshold of 5. Data crossing and real time information seem to be most implemented, but advanced analysis techniques such as big data or predictive analytics are still being developed.

The limited use of advanced data in the management of smart cities is also evident in the management of SDs. The results of the questionnaire conducted among tourism managers is summarised in Table 7, based on the responses within a Likert scale from 0 to 7, where the average value is 4 and 0 in the case of those destinations that do not use a certain technology. The most conventional data sources and digital information derived from web analytics and social network analysis exceed the value of 4. All of this is aimed at gaining a better knowledge of the market and the design and development of marketing actions, emphasising the utilisation of business intelligence systems detected in the analysis of the plans and the open questions of the survey.

According to the managers (Table 7), while some data sources are frequently used in the management of SDs, other sources are hardly used at all, such as the data derived from the use of bank cards, public Wi-Fi networks or mobile phones. This may be due to factors regarding access to data subject to payment and the low capacity to adapt to the changing dynamics of these technological applications.

Table 7
Degree of use of the different sources and techniques of data analysis in the management of smart destinations.

Data sources (Value 0, not used at all; other values from 1 very low level of use to 7, very high level of use) (n = 16)	Mean	Standard deviation
Data of face-to-face consultations in Tourist Offices	5.86	1.61
Social network data	5.65	1.69
Study of demand	5.09	2.06
Web traffic data of the destination	5.04	2.20
Online consultations in Tourist Offices	4.82	2.51
Information of companies in the destination	4.43	2.44
Digital marketing impact reports	3.68	2.67
Big data sources	3.33	2.68
Digital reviews (TripAdvisor, Booking, etc.)	3.27	2.56
Open data	3.23	2.56
Data acquired from consulting firms and external companies	3.18	2.68
Search engines on the destination	3.00	2.46
Online Travel Agencies (OTAs)	2.50	2.70
Data from 24-h information points	2.32	2.51
Data from P2P platforms	2.26	2.34
Public Wifi data	2.00	2.65
Transport card data	1.90	2.40
Data from sensors installed in the destination	1.76	2.54
Data of mobile applications	1.67	2.12
Data of the use of QR codes	1.65	2.26
Data of tourist cards	1.48	2.65
Data of tourist mobility through mobile phones	1.30	1.98
Data of spending derived from bank transactions	1.22	2.08
Data of the use of Beacons	0.91	1.71

Own elaboration.

5. Discussion and conclusions

The smart discourse, originally applied to urban areas, has permeated tourist destinations in a short period of time and has redrawn the planning of both cities and tourist areas. This research has conducted an analysis of the smart initiatives applied in Spain, a country that has become a reference in this field, showing a high level of adoption of the smart approach in city and destination planning processes. Smart plans and projects in Spain have undoubtedly been favoured by the European Union policies, in a similar way to the case of Italy, as pointed out by Vanolo (2014). This is stimulated by public incentive programmes in three specific areas: territorial-urban, technological and tourism policy. Spanish and European smart initiatives heavily rely on public external funding from the European Union, unlike initiatives in China, the US, India or South Korea. which are funded by national governments or private companies (Engelbert et al., 2019).

The characterisation of the smart planning initiatives reflects the predominance of plans driven by public incentives that respond to pre-established design, elaboration and execution guidelines. This favours the widespread implementation of successive plans based on technologies which are deterministically assumed to have positive effects (Cowley et al., 2018; Grossi & Pianezzi, 2017). This involves planning without adaptation to the territorial reality, considering the "local" as the enemy (Clark, 2020), because variations challenge the creation of stereotypical urban operating systems that are profitable for large technological corporations. Global indices and rankings, generally market-oriented (Sharifi, 2020), contribute to the internationalisation of the smart city construct, marginalising knowledge of local urban realities (Merricks White, 2019), which is essential for urban and tourism planning. Moreover, the use of technology is never ideologically neutral and may benefit some social groups more than others (Halegoua, 2020). Also, the low degree of implementation of smart solutions, such as context-awareness applications (Rocha et al., 2022), raises the question of who should fund the testing of solutions that are not strictly public investments (Clark, 2020).

The analysis reveals a clear urban bias: medium and large municipalities are capitalising the smart discourse, as they are able to develop more advanced plans to raise public funds. This coincides with the conclusions reflected by Desdemoustier et al. (2019) on the acceptance of the concept of the Smart city in Belgium. Size, structure and model of the city condition the possibilities to evolve towards a smart city or destination and the way in which the strategy is designed and developed. Cities with larger populations better fulfil the premises of the smart city. These cities have more resources and greater pressure on their infrastructures and public services. They usually have more advanced smart city strategies and projects. This group would include cities such as Barcelona, Madrid, Málaga, Santander, Bilbao or Valencia, where the comprehensive smart city approach favours better tourism management, although not sufficient to develop a fully smart destination strategy. Therefore, even with advanced smart city projects, it is necessary to incorporate a tourism-focused perspective that enables the coordination of initiatives that affect tourism.

The diversity of territorial and urban contexts and the local policies and types of actors involved mean that we cannot refer to a single smart model (Kummitha & Crutzen, 2017). This reinforces more nuanced approaches, such as the dichotomic one proposed by Komninos and Mora (2018). Furthermore, smart approaches vary in accordance with the evolution of local policies, among other factors. The entry of progressive parties into Barcelona's local government constitutes a paradigmatic case in terms of both the change in tourism policy (Russo & Scarnato, 2018), and the very conception of the smart city, which now incorporates a greater social agenda, prioritises participation and promotes technological sovereignty (Cardullo & Kitchin, 2019). This evolution from a focus on technology to more citizen-centric smart initiatives is evident in other European cities such as Amsterdam or Turin (Nesti, 2020), and also in Asian cities such as Seoul (Neo, 2019) or Hong Kong (Li, Nam, & Keong, 2020; Li, Shan, & Wang, 2020), but in the Spanish case it is exceptional and practically confined to Barcelona.

With respect to the implications of the smart initiatives for the governance and sustainability of the cities, we must consider two methodological limitations of this study: on the one hand, the interviewees evaluate aspects for which they are responsible, so there could be a certain level of bias towards positive responses, although they are technical rather than political managers. On the other hand, they evaluate initiatives that, in many cases, are still in development. All in all, the balance provides interesting results. Certain improvements can be observed in specific aspects of management, largely thanks to the application of technologies. However, they are far removed from the picture portrayed by the media and the idealised narratives of smart cities. Therefore, the results support part of the fears expressed by the critics (Hollands, 2008; Söderström et al., 2014; Vanolo, 2014; Yigit-canlar et al., 2018). From the perspective of governance, it is interesting to note how the triple helix approach is still being consolidated and that the quadruple helix is an objective that is very difficult to achieve due to the low level of involvement of civil society in smart initiatives. The doubts raised (Cardullo, 2020) regarding the role of the citizen in the smart city are confirmed in our analysis insofar as the citizen and the tourist are considered as users and beneficiaries of the smart initiatives, but their role seems to be limited to the generation of data that feeds the system (Femenia-Serra et al., 2019).

With respect to the degree of coordination of the overall smart city strategy and specific tourism strategy, a fundamental aspect of the converged governance model (Gretzel and Koo, 2021), the results show a high level of coordination from the point of view of the smart city managers, with a more comprehensive view of the city and a medium level of coordination by tourism managers, probably due to them belonging to a more specific sector. This situation seems to favour the achievement of synergies between the smart city and tourism management, in accordance with the desired alignment of smart initiatives with other public urban policies (Alizadeh, 2021). However, this conclusion requires a more in-depth study of the knowledge of the agents participating in the design and development of the smart initiatives.

The integration of sustainability as a basic principle of smart cities has not been adequately conducted in practice and does not necessarily lead to significant progress (Ahvenniemi et al., 2017; Yigitcanlar & Kamruzzaman, 2018), a result shared by previous research (e.g., González-Reverté, 2019). The results of our research show a positive evaluation of the impact of the smart initiatives on sustainability, particularly in aspects such as energy efficiency and sustainable mobility, which receive considerable funds from the Spanish government and the EU. Meanwhile, the worst evaluations were given to the protection of biodiversity or noise pollution. More ambitious policies that address the challenge of climate change and reinforce the social dimension of sustainability are required (Ivars-Baidal, Celdrán-Bernabeu, et al., 2021; Ivars-baidal, Vera-rebollo, et al., 2021).

The use of data as a differential factor of the smart approach, fundamentally digital data systems as new forms of modern planning strategies in smart cities (Kourtit et al., 2017), is relatively low, according to our results. Our study reveals that one-off initiatives, such as those developed in Barcelona or Valencia, coexist with cities that apply ICTs in a limited way to obtain, analyse and communicate information for urban and tourism management. In smart city projects substantial improvements have been made in data gathering through new sources such as sensors, with relevant applications in areas such as road traffic or the water cycle. However, the widespread use of advanced data analysis techniques, such as predictive analytics, is scarce. Again, smart strategies seem to be focused on facilitating the integration of data into global management platforms of the city, in which, however, tourist information is not fully included. From a tourism planning and management perspective, the use of new data sources is growing but has still not reached its full potential. Advanced tourist information systems have been created which are fundamentally related to market intelligence in destinations with a significant tourism specialisation (Barcelona, Benidorm or Valencia).

5.1. Theoretical contribution

The findings of this research (Fig. 4) contribute to enriching both smart city literature and the knowledge of SDs, as well as their intersection in terms of discourses, planning and initiatives. While focused on the reality of one country, the results obtained shed light on a global and complex discourse and exemplify how imaginaries are actually translated into international planning and policies. Our study reveals a gap between the adoption of the smart paradigm and specific achievements (Clark, 2020), as the managers themselves estimate a medium degree of development of smart projects. In terms of urban planning, it is clear that the smart city, at least at the discursive level, goes beyond the application of digital technologies. Progress, albeit not widespread, can be observed in the findings in the three key techno-scientific domains that connect the smart city with urban planning as identified by Mortaheb
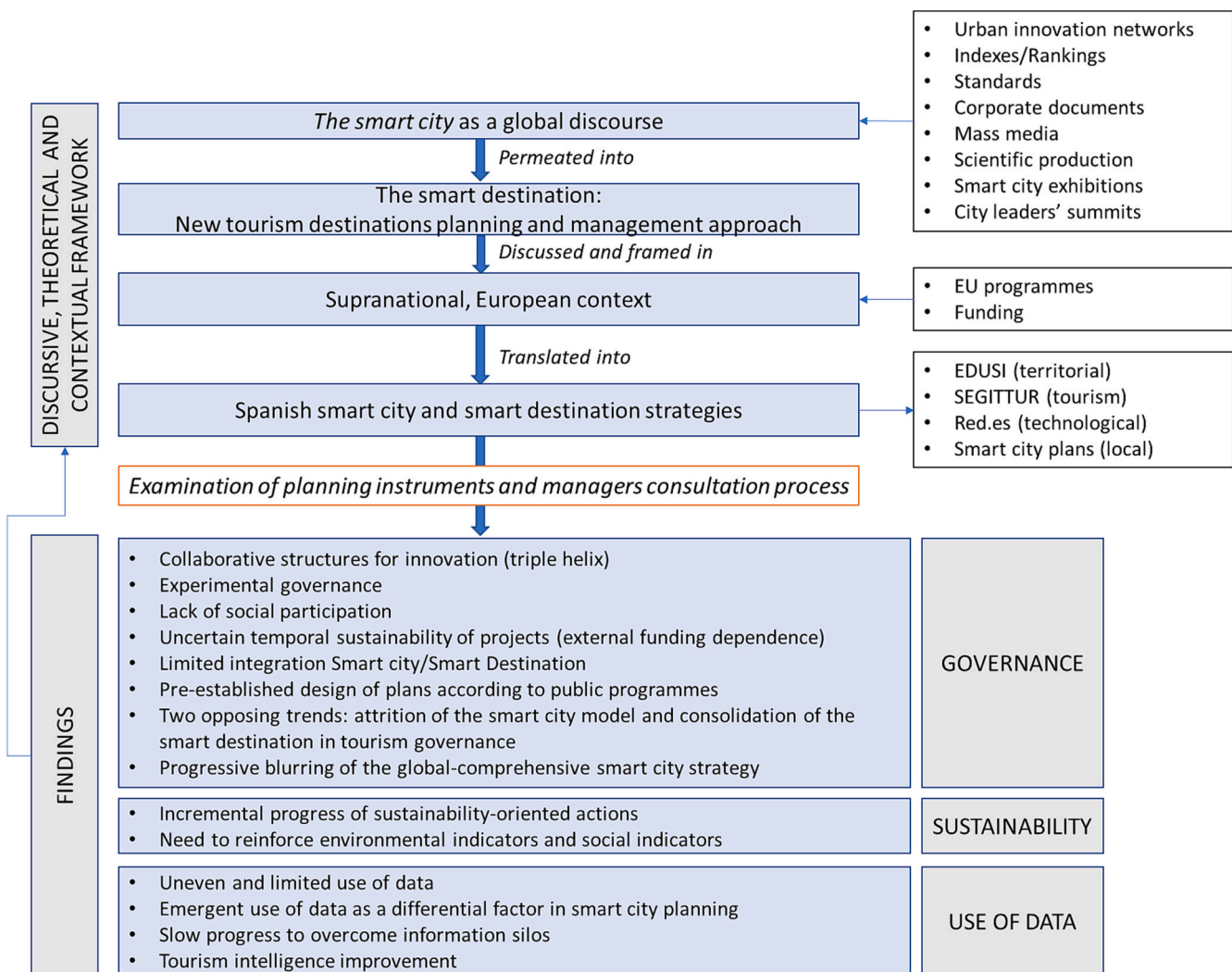

Fig. 4. Findings summary
Own elaboration.

and Jankowski (2022): Big Data, Geographic Information Systems, and Data Science, a technological boost which, on the negative side, implies a further corporatization of urban management (Kitchin, 2019). The limited and uneven degree of application of these technologies observed in this study reflects that we are far from "the end" of urban planning, as the predictive and programmable city model based on constant real-time information (Willis, 2020) is still an improbable and undesired future (Mattern, 2017). Hence, the findings reinforce the existing scientific contributions that highlight the flaws and perils of the smart discourse (e.g., Joss et al., 2019; Kitchin, 2015). The theoretical conception of the smart city as a system of systems (Yigitcanlar et al., 2019), that supports the integrated approach of international smart city standards and the busting of information silos for urban governance (Merricks White, 2019), is not reflected in the Spanish experience. This is a consequence of the limited use of standards, the lack of a comprehensive planning approach and the difficulties in consolidating smart city platforms.

The emphasis on the application of technologies in specific projects diminishes the relevance of an overall strategy. The chronological study of smart initiatives in cities reveals how plans are losing relevance in favour of the development of projects and programmes within the conception proposed by Komninos et al. (2019) of smart city planning, driven only by an agglomeration of uncoordinated and unpredictable initiatives, actions and opportunities. In a sense, the antithesis of planning or anti-planning as expressed by Cowley and Caprotti (2018), with non-negligible risks, in complex urban environments with diverse stakeholders and divergent interests. Related to this approach, the association of the city with a sandbox for innovation generates a logic of experimental governance that favours the collaboration of local stakeholders (Cowley & Caprotti, 2018; Mancebo, 2020). However, it reduces the smart strategy to specific projects with an impact restricted to a specific area or domain, at the fringe of mainstream institutional policymaking as reported by Cowley et al. (2018) for UK cities.

Although the global smart city discourse focuses on achieving transformative governance (Joss et al., 2019), the obtained evidence does not reflect far-reaching changes in urban governance derived from smart initiatives. It is certainly not possible to identify smart cities with a type of participatory planning, despite the possibilities that technologies offer to increase citizens' engagement. The issue of representation in smart city planning and the absence of marginalised communities in the smart strategy is not clear (Clark, 2020). However, the initiatives studied, as in other European cities (Nesti, 2020), demonstrate the public interest in creating collaborative structures for innovation and coordination of municipal services under the smart strategy, which have produced significant results in cities with more consolidated projects.

From the point of view of tourism planning and management, Spain, probably more than any other country, has embraced SDs as a new planning approach thanks to the commitment and institutional action of SEGITTUR as well as other regional and local authorities. The creation of a model with a clear methodology for implementation is an advantage for the dissemination of SD as a planning approach. The experience of China also emphasises the need for planning, regulation and standardisation measures to avoid a disorderly development of smart tourism (Wang, Loo, & Huang, 2022; Wang, Zhen, et al., 2022). In this vein, Sun et al. (2022) identify the lack of a comprehensive development framework as the main hindrance to smart tourism development in Hong Kong, despite the advanced implementation of its smart city strategy (Li, Nam, & Keong, 2020; Li, Shan, & Wang, 2020).

The creation of a standard by SEGITTUR has allowed the internationalisation of the Spanish SD model, mainly in Latin America, where recent studies such as that of Aïdi and Fabry (2022) for Medellín (Colombia) point to both improvements in destination governance and the need to adapt a standard created in Europe to the Latin American context. In this sense, doubts also emerge about the diffusion of these models to other geographical contexts in line with Marchetti et al. (2019) critique of the application of smart city models designed in the global North to Latin American countries.

This research reinforces the conclusion of Soares et al. (2021) in considering the SD as an emerging planning approach, while highlighting the existence of several gaps in its implementation. On the positive side, the use of indicator systems as a central axis of the model (Ivars-Baidal et al., 2019) is a move towards evidence-based planning (McLoughlin & Hanrahan, 2021). Additionally, organisational improvements favour greater policy coordination and new information systems generate better knowledge and more efficient marketing actions (Femenia-Serra & Ivars-Baidal, 2021). We must also note the high political weight and its rhetorical burden, the difficulty of managing the transversal nature of tourism, particularly visible in the challenge of sustainability, the deficit of public-private collaboration, and the lack of continuity of innovative projects when public funding ends. By exploring these issues, this research is one of the first to contribute to the scarcely analysed role of tourism within smart city strategies (Romão et al., 2018).

All in all, the analysis carried out reflects the high degree of institutionalisation of the smart initiatives and discourse and the coexistence of several approaches and perspectives in terms of planning and management, dependent on different policies implemented at the local scale. The institutional initiatives are diverse and not always well coordinated. This leads to certain limitations, such as different degrees of project implementation because of the Spanish competence structure and the dependency on subsidies for the development of smart projects. This circumstance generates doubts regarding the challenge highlighted by Nesti (2020) of the long-term sustainability of the smart city at both the policy and political level. However, it is evident that smart initiatives have contributed to the idealised views of smart cities and smart destinations, which do not correspond with the reality of urban and tourism management. Nevertheless, they have also supported a process of collective learning with respect to the scope and possibilities of the smart approach in planning, which this study seeks to summarise.

5.2. Practical implications

The results obtained in this research can be useful not only for Spanish and European policy makers, but also for other regions where the smart approach is being implemented. In the Spanish case, two opposing trends can be observed from the point of view of the smart approach in the political agenda. On the one hand, there is a certain attrition of the smart city model due to the non-existence or lack of updating of comprehensive smart city plans, the slow implementation of projects and their limited scope. At best, there is incremental improvement as evidenced by the perception of managers, or a will to move away from the technological bias of the smart approach. This trend of going beyond the smart city has already been noted in other international contexts (Kitchin, 2022; Nesti, 2020). On the other hand, the SD model is consolidated within Spanish tourism policy and it is evolving through an active collaboration network with a growing international projection in Latin American countries.

Different recommendations arise from our analysis in two main dimensions. First, regarding the smart plan design phase, our results recommend developing comprehensive and territorial plans (such as EDUSI), which seem more adjusted to the smart discourse than monodimensional plans. This approach is closer to the smart city 3.0 defined by Biloria (2021) in which governmental bodies and citizens collaborate to solve urban problems. Moreover, the design of plans needs to be balanced in terms of the role given to technology. The projects developed from the technological perspective (Red.es) in Spain are framed in the smart city 2.0, in which a technological provider offers a solution to an urban problem (Biloria, 2021). ICTs must be adapted to the particular needs and reality of the territory in which they are applied. The results of our study demonstrate that this is not a common practice. This fact is related to the funding of projects. In this regard, our findings recommend sufficient and maintained funding for smart plans over time, which might be, however, initiated with external budgets (e.

g., EU funds). Additionally, policy makers must consider the difficulties of involving local agents in participatory processes. Hence, we call for more dynamic and open participation mechanisms in urban and tourism planning to ensure that citizens are an active part of the process. Finally, our findings show the need to rely on indicators not only to measure the initial state or progress of smart cities and smart destinations, but also to assess the results of these strategies. Evaluating the final outcomes is critical to understand the impact of planning processes. In this sense, it is interesting to note the creation of smart city development evaluation indices in China, although their application is complex because they cannot always reflect the diversity of smart projects or adapt to each stage of development (Yang & Ye, 2020).

Second, regarding the plan implementation phase, bureaucracy and difficulties in public administration and contracting processes make it difficult for public administrations to deploy measures in the expected time frameworks. Therefore, plans should include more flexible timing in their implementation to accommodate the required regulations in terms of transparency and contracting, and to facilitate public-private partnerships. This is related to the need of fostering interdepartmental collaboration within public organisations to ensure a correct implementation of plans. On a different scope, smart city and smart destination plans ought to emphasize climate change mitigation and adaptation as well as social aspects, as key objectives in their implementation. Our results demonstrate the lack of measures in these two key issues when plans are being executed. With respect to social sustainability, plans must consider overtourism and all its derived implications (overcrowding, resources consumption, pressure on housing and residents' lives, etc.) as part of the overall strategy when applied in destinations that suffer from this problem.

The practical implications and theoretical contribution of this paper show the translation of the global smart city discourse into concrete policies and planning processes in Spain, within the favourable context of the European Union for the development of smart initiatives. It is hoped that this research paves the way for other scholars and experts from other countries and settles the basis for a more critical examination of how the smart discourse has permeated into urban and tourism planning.

CRediT authorship contribution statement

Josep A. Ivars-Baidal: Conceptualization, Data curation, Formal analysis, Methodology, Writing – original draft, Funding acquisition, Project administration. **Marco A. Celdrán-Bernabeu:** Conceptualization, Methodology, Data curation, Formal analysis, Writing – original draft. **Francisco Femenia-Serra:** Conceptualization, Methodology, Formal analysis, Writing – original draft. **José F. Perles-Ribes:** Data curation, Formal analysis, Writing – original draft. **J. Fernando Vera-Rebollo:** Conceptualization, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Some date have been kept confidential in order to preserve the anonymity of the survey participants.

Acknowledgement

Appendix A

Table A1
Interviewees' profiles.

Smart city n = 23	
Management profile	
Area technician	4
Head of department/service	10
Managing director	5
Smart Office coordinator	2
Political representative	2
Background	
Degrees in Engineering	14
Degree in Tourism	3
Degree in Physics	1
Degree in Mathematics	2
Degree in Architecture	1
Degree in Psychology	1
Degree in History	1
Gender	
Male	65,22 %
Female	34,78 %

Smart destination n = 16	
Management profile	
Tourism technician	6
Head of tourism department	2
Tourism manager/director	5

Table A1 (*continued*)

Smart destination n = 16	
Smart Destination coordinator	3
Background	
Degree in Tourism	5
Degree in Geography	2
Degree in Journalism	2
Degree in Computer Science	2
Other degrees	5
Gender	
Male	56,25 %
Female	43,75 %

Own elaboration.

Appendix B. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.cities.2023.104266.

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