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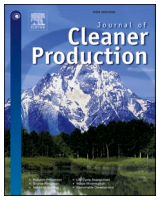

Smart mobility in Venice: An ecosystem perspective

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ABSTRACT

In the last twenty years, organizations have been increasingly asked to contribute to global challenges. Some of the numerous requests are to combat climate change, the pollution decrease, and energy issues. In this field, the strategic challenge to be overcome is changing the business concept from a mere creator of economic value to a producer of shared value. In this sense, the context of Smart Mobility (SM).

Through a case study with five purposive samples of Smart Mobility start-ups, an expert in strategic innovation, sustainability management, and business model innovation, and an innovative project evaluator, the research analyzes the values generated at an ecosystem level, with a reflection on Venice (Italy), the world capital of sustainability. Specifically, flexibility, efficiency, sustainability, safety, satisfaction, and image are explored in depth. Furthermore, the problems that operators and users have to face are discussed.

The results of our study confirm what is present in the literature: SM increases mobility, offers flexibility, and guarantees greater capillarity and customization of the service, broadening the field of analysis and suggesting proactive actions.

The article contributes to understanding how some obstacles/problems slow down the development of Smart Mobility and its widespread diffusion.

Finally, the paper reflects on how Venice can be an example and cradle of innovative solutions, also in the SM field.

1. Introduction

In the last twenty years, organizations have been increasingly asked to contribute to global challenges, to combat climate change, growing pollution (OECD, 2014), and energy issues (Biancone et al., 2021; Massaro et al., 2018). Indeed, the weight of these problems has prompted a growing focus on creating a sustainable future (Castellano and Felden, 2021; Massaro et al., 2020; Calandra et al., 2022; Toniolo et al., 2020; Kley et al., 2011; Secinaro et al., 2021). The 2030 Agenda, for example, bears witness to a worldwide commitment to sustainable development, signed in September 2015 by the governments of the 193 member countries of the United Nations (United Nations Organization). Among the many goals set is the commitment to guarantee the lasting protection of the planet and its natural resources through sustainable and inclusive economic growth (Colglazier, 2015; Ruiz-Mallén and Heras, 2020; Moallemi et al., 2019). At the European level, the 2023 Agenda underlines the commitment that the Union member countries have taken to reduce greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels (Marinov et al., 2020; Martino and Fiorello, 2012; European Commission, 2023).

If policy dynamics have been increasingly oriented toward environmental ecosystem protection, management literature has progressively adopted a biological perspective on business. One of the pioneers of this new approach was the American scholar and business strategist James F. Moore, also known for his commitment and support towards the ecological approach to business and economic strategy (Moore, 1993, 2013). Moore defines a business ecosystem as "*an economic community* supported *by a foundation of interacting organizations and individuals – the organisms of the business world*" (Moore, 1993, pp. 9; 25, 26), and these communities form "*in a partially intentional, highly self-organizing, and even somewhat accidental manner*" (Moore, 1993, p. 168). According to a large part of the literature, the business ecosystem is an economic community composed of several stakeholders who inhabit the same landscape and co-evolve (Moore, 1993; Iansiti and Roy, 2004; Rong and Shi, 2014), whose capabilities and roles tend to align with the direction established by one or more companies central (Moore,

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1993; Pütz et al., 2019). Achieving sustainability objectives, therefore, requires companies to also focus on changing their business models using an ecosystemic logic to promote a cultural change in local business and economic logic at a broader level (Biloslavo et al., 2018; Boons et al., 2013). The literature highlights how the strategic challenge to overcome is not so much making companies more responsible towards people, the environment, and territories but changing the business concept from a mere creator of economic value to a producer of shared value (Biloslavo et al., 2018; Boons et al., 2013; Jacobides et al., 2018), thus moving from creation of "*value*" to the creation of "*worth*" (Massaro et al., 2018; Edvinsson et al., 2022).

In this sense, the context of Smart Mobility (SM) appears to be particularly relevant, which represents an integrated system of mobility, urban and extra-urban and concerns various types of transport (Calandra et al., 2023), such as E-Mobility (Kazemzadeh and Bansal, 2021; Zuev et al., 2019), Sharing Mobility (Loidl et al., 2019), Mobility as a Service (MaaS) (Docherty et al., 2018), intermodal mobility, and self-driving vehicles (Faria et al., 2017; Paiva et al., 2021; Lanzalonga et al., 2023). SM represents a cornerstone in Smart City construction, where traditional networks and services are made more efficient through digital solutions for the benefit of its inhabitants and businesses (European Commissio, 2023b; Ma et al., 2018; Zheng et al., 2020), thanks to the creation of shared value. New technologies (such as IoT, artificial intelligence, and data analytics) enable infrastructures to create new services for citizens' needs. The resulting benefits are also related to developing an intelligent city (Secinaro et al., 2021): better air quality, reduced traffic, better user satisfaction levels, better parking management (smart parking), and so on.

As suggested by recent literature (Snihur and Bocken, 2022), research on sustainable models should go beyond the issue of economic profitability and customer value creation, focusing on the broader impact on BEs, society, and the planet. This step forward appears necessary to address growing sustainability concerns, such as climate change, growing pollution (OECD, 2014), and energy issues (Biancone et al., 2021; Massaro et al., 2018), through innovative models that consider future competitiveness, as well as pressing societal needs and crises. Although studies on value creation from an ecosystem perspective have been carried out (Ritala et al., 2021; Snihur and Bocken, 2022; Snihur et al., 2021), the dynamics are still challenging to understand, requiring further investigations. Specifically, our research aims to investigate the actors that generate ecosystem value, the stakeholders who capture it, the concept values generated/captured, directing us in the field of SM, one of the possible innovative landscapes in terms of sustainability, with a reflection on Venice, the world capital of sustainability (VSF, 2023; Città di Venezia, 2022).

To answer the research questions, the authors proceeded with a case study. Specifically, five startups were analyzed, through semi-structured interviews carried out in June 2023. The interviewees are five of the nine actors of SM ecosystems, who, along the way, have had the opportunity to collaborate with VeniSIA, an innovation accelerator on sustainability (Massaro et al., 2022; VeniSIA, 2023). For completeness and greater objectivity of the results, an expert in strategic innovation, sustainability management and business model innovation, and an evaluator of innovative projects, active at VeniSIA, were also interviewed. The latter, as anticipated, is an accelerator oriented towards the development of entrepreneurial ideas and technological solutions capable of tackling climate change and other environmental, social, and economic challenges, developed at the Ca' Foscari University of Venice, (Italy). VeniSIA attracts institutions, companies and individuals who believe Venice is the perfect context to test sustainable ideas and solutions that are valid for its fragile ecosystem but at the same time scalable for the benefit of the entire planet. Venice presents a unique panorama: lying on 118 small islands, it is a city with a unique mobility system, determined by the general complexity of the environmental context, by the almost exclusive pedestrian area of the island, and by the huge tourist flows (the Municipality of Venice has registered in 2022 almost 11 million arrivals (Regione Veneto - Sistema statistico regionale, 2023). This context appears to be a potential destination for solutions adopted elsewhere and which could find flourishing development in this city.

The results of our research agree with recent literature, but broaden some points of discussion, allowing reflections both at a global and local level, specifically when talking about Venice.

2. Literature review

2.1. Business ecosystems

The concept of ecosystem, which has its roots in biology, is represented by the union of two words: ecology and system. Thus, an ecosystem is a concept that integrates plant and animal biology, population dynamics, behavior, and evolution (Tafti et al., 2015; Sui, 2007). Biologists study natural ecosystems to discover interactions, behaviors, and reactions of actors with respect to external events (Göthlich et al., 2004). Different derivations of the word "ecosystem" have been introduced in various sciences including biological ecosystem, industrial ecosystem, social ecosystem (Payet et al., 2013), and business ecosystem. This latest version, introduced by James F. Moore (Moore, 1993), was presented by the American business strategist for the first time in 1993 in an article in the Harvard Business Review (Moore, 1993), winner of the McKinsey Award for the article of the year. According to the pioneer of the concept, BE is: *"an economic community* supported *by a foundation of interacting organizations and individuals – the organisms of the business world",* and these communities *form "in a partially intentional, highly self-organizing, and even somewhat accidental manner."*(Moore, 1993). Thus, the business ecosystem is an economic community composed of different stakeholders who inhabit the same landscape and co-evolve (Moore, 1993; Iansiti and Roy, 2004; Rong and Shi, 2014; Dal Mas, Biancuzzi, Massaro, and Miceli, 2020). The capabilities and roles of the companies of the ecosystem tend to align with the direction established by one or more central companies (Moore, 1993; Pütz et al., 2019; Schneider et al., 2020; Radziwon and Bogers, 2019). Numerous subsequent studies (Den Hartigh and Van Asseldonk, 2004; Iansiti and Roy, 2004; Peltoniemi et al., 2005; Goncearuc et al., 2022) agree with Moore (Moore, 1993), presenting only slight deviations from the scholar's initial definition (Moore, 1993), considering BEs the natural improvement and expansion of the conceptual space created by value networks (Leviäkangas and Öörni, 2020).

The economic community produces goods and/or services of value for customers, who are themselves members of the BE. The players in the ecosystem are diverse and more or less numerous: orchestrators, satellite realities, customers, and stakeholders (Schneider et al., 2020; Radziwon and Bogers, 2019). The capabilities and roles of the various actors, as mentioned above, co-evolve over time, tending to align with the directions established by the orchestrator(s), central realities of the BE, which allow members to move towards shared visions to align their investments and find mutually supportive roles (Moore, 1993, 1996). This holistic vision is effective in a context like mobility, where it is essential to consider externalities, such as issues relating to the ecological footprint, safety, public health, and urban impact. Excluding these values would even make it difficult to see the development of the entire ecosystem.

2.2. Smart mobility

The panorama of ecosystems based on innovation and the creation of shared value certainly includes that of SM, which represents an integrated urban and extra-urban mobility system and concerns different types of transport. Examples are E-Mobility (Kazemzadeh and Bansal, 2021; Zuev et al., 2019; Secinaro et al., 2020, 2022), relating to the use of all those vehicles that use electricity as an energy source instead of fossil fuels, and Sharing Mobility (Loidl et al., 2019), which provides for the management of vehicles (cars, bicycles or electric scooters) shared.

Other examples include Mobility as a Service (MaaS) (Docherty et al., 2018), which is based on the possibility of planning, booking, and paying for multiple types of mobility services through digital tools and pay-per-use or fee-based payment models, intermodal mobility (through the combined use of different means of transport) and self-driving vehicles (Faria et al., 2017; Paiva et al., 2021), whose operation is closely linked to the interconnection with the network, to the use of sensors and IoT devices.

SM represents a cornerstone in Smart City construction (Tomaszewska and Florea, 2018), a place where traditional networks and services are made more efficient with digital solutions for the benefit of its inhabitants and businesses (European Commissio, 2023b; Ma et al., 2018; Zheng et al., 2020). New technologies (such as IoT, artificial intelligence, and data analytics) enable infrastructures to create new services that respond to citizens' needs. The resulting benefits are also related to developing an intelligent city (Secinaro et al., 2021): better air quality, reduced traffic, better user satisfaction levels, better parking management (smart parking), and so on. The European Union considers SM as one of the six pillars of the Smart City, alongside Smart People (involvement of citizens), Smart Governance (role of the administration in managing human capital, environmental resources, and the assets of the community), Smart Economy (role of productivity and employment in the city), Smart Living (health and well-being of citizens) and Smart Environment (vision of the future in terms of sustainable development, low environmental impact and energy efficiency) (European Commissio, 2023b).

SM is therefore placed as central in the context of necessary actions to protect environmental sustainability and disruptive innovation (Si et al., 2021; Ruzza et al., 2020). The concept of SM envisages various declinations and presents a general and significant research gap as the phenomenon is in its early stages of development (Faria et al., 2017; Gabrys, 2014; Tomaszewska and Florea, 2018). There are several definitions of SM (Bıyık et al., 2021) in the literature. Vanolo refers to the phenomenon as *"local and supra-local accessibility, availability of ICTs, modern, sustainable and safe transport systems*" (Vanolo, 2014, p. 887). Albino et al. instead describe it as "the use of Information and Communication Technology in modern transport technologies to improve urban traffic" (Albino et al., 2015). Allam et al. broaden the perspective, stating that Smart mobility is not just the embedding of technology into urban infrastructure, it also calls for citizens to pursue and relate to their urban surroundings in a smart and rational way (Allam and Newman, 2018). Although a single definition has not be found, the character that binds the different versions is the need to use information and communication technologies.

One of the goals of SM is to engage a broad spectrum of stakeholders, developing local alliances to build consensus on the priorities and scope of smart mobility development and collective problem-solving strategies (Sochor et al., 2018). However, for industrial groups and corporate choices to promote sustainable mobility actions, it is essential to discover how their business model can and can evolve to resist such a rapid change in the reality of the sector. For example, automotive and e-bike manufacturers need to make strategic choices that go beyond vehicles and include charging technologies, ride services, electricity management, and commercial contracts, along with new manufacturing and assembly processes (Zuev et al., 2019; Secinaro et al., 2020, 2022; Papathanasiou-Zuhrt et al., 2018; Graziano, 2019). In this context, the change in business models and the value of business ecosystems is rapidly evolving and needs in-depth studies.

2.3. Smart mobility: the potential of ecosystems perspective for value maximization

Although the existing literature is investigating more and more aspects relating to SM, first of all, there is a lack of development and widespread geographical diffusion of the phenomenon, together with an overall and structured picture of its dynamics (Ma et al., 2018; Pütz et al., 2019; Karapantelakis and Jan, 2017). Furthermore, there is growing attention to the ecosystem approach. Several studies highlight that we are increasingly moving towards a panorama of relatively autonomous actors who integrate resources shared by institutions co-creating value also through the exchange of services (Ma et al., 2018; Dal Mas, Biancuzzi, Massaro, Barcellini, et al., 2020). Part of the literature still agrees with the fact that " … in most industries, the vast majority of established companies' revenues still come from traditional products and services" (Sebastian et al., 2017). Only recently have some debates about ecosystem relationships and value creation in SM developed (Ozpinar, 2023; Afentoulis et al., 2022; Weiller and Neely, 2014). For example, Yuge Ma et al. underline how the rise of app-based sharing mobility platforms has been the impetus for the reorganization of the mobility sector, connecting previously parallel sectors, such as fuel cars, electric cars, electric two-wheelers, and bicycles, to merge into a single shared mobility business ecosystem. Furthermore, the advent of intelligent sharing systems is emancipating the collaborative consumption of mobility on large and deep scales ranging from car pooling to the extensive use of electric vehicles to bike sharing. With mobility being the most promising sector in the fight against carbon reduction, emerging and diversified shared mobility business models offer enormous potential to transform urban mobility towards sustainability (Ma et al., 2018). Despite strong drives towards systemic innovation, there are difficulties due above all to the misalignment between the business models of companies and that of their ecosystem (Radziwon and Bogers, 2019). The current progressive innovation of business models is opening the borders of several important modes of transport and encouraging the intersectoral flow of production elements such as people, information, and capital (Ma et al., 2018), but above all, it has opened the door to the development of integrated models of urban sustainability.

In a recent context such as that of SM, despite the growing interest in publications on the subject (Leviäkangas and Öörni, 2020; Pulkkinen et al., 2019; Faber et al., 2018), the link between value creation and business ecosystems in the field of SM remains an issue to be explored.

3. Methods

To answer the research questions, the authors proceeded with a case study. Due to the specific research questions and the novelty of the analyzed phenomenon, the authors opted for a qualitative study technique. In fact, in complex contexts, where phenomena and relationships are blurred, researchers tend to move towards more complex research methodologies and seem to favor the use of qualitative investigation methods (Gummesson, 2006). Our work has been exploratory and has attempted to build rather than test theory, reflecting the developing nature of our empirical and theoretical context (Spanò et al., 2021).

Below are the main steps of our methodological process.

3.1. Research context

The actors interviewed, although with different roles, are all part of SM ecosystems (Spaniol and Rowland, 2022), and in their journey have had the opportunity to collaborate with VeniSIA, an accelerator of innovation on sustainability (Massaro et al., 2022; VeniSIA, 2023), oriented towards the development of business ideas and technological solutions capable of tackling climate change and other environmental, social, and economic challenges, developed at the Ca' Foscari University of Venice (Italy). Specifically, the nine SM entities that collaborated on multiple levels with VeniSIA were contacted, of which five agreed to cooperate. Furthermore, an expert in strategic innovation, sustainability management, and business model innovation and an evaluator of innovative projects, all of them with active roles within VeniSIA, were interviewed. The interviewees in addition, to punctually analyzing the different values generated for each actor in their smart mobility ecosystem, then moved on to reflections on the transport ecosystem of Venice, placing emphasis on the experiences born in this place, a state of

inspiration for other cities, or emphasizing the potential and possible positive impacts of their products and services, in such a busy and complex area at an urban level (Casagrande, 2016; Zanini, 2017).

As anticipated, Venice is a unique place in the world, which enjoys an area dotted with canals and "rii", "calli", "campi", "fondamenta", "salizzade", and small islands connected by bridges, and presents the historic center surrounded and crossed by water("Trasporto Pubblico. Una Città Unica Al Mondo." 2023). In addition to the well-known reasons for which the city is known, the city has a complex transport system, with surprising numbers of journeys and vehicles. Citizens and tourists move on foot or along the waterways using, in addition to private means, one of the public means of transport such as water buses, speedboats, breakwaters, motorboats, or ferryboats. In 2019, ACTV, the Venetian public transport manager, made 200,000 trips, while the car service reached 160,000. To these must be added the trips made by the tram service, which amount to 45,000, distributed between 680 trips/day (Metropolitano.it, 2019). This turns out to be a context that needs new solutions for optimizing mobility, with objectives of environmental sustainability, planning, and coordination.

3.2. The analyzed startups

3.2.1. Bufaga

Bufaga (www.bufaga.com) (hereinafter abbreviated to "B") is an innovative startup, managed by an under 30 team of environmental and mechanical engineers and marketing and communication professionals. The curious name of this startup is inspired by that little bird that lives on the backs of African herbivores, to eat the insects stationed there. Starting from this similarity, this reality, born in 2022 in Rome, offers a smart filtering device to be installed on any means of transport, capable of removing the main pollutants from the air and at the same time monitoring the air quality in the areas in which the vehicle travels. Thanks to integrated intelligent sensors, the system analyzes the concentration of fine particles in the air and removes polluting elements through a filter which allows for a reduction of net emissions by more than 80%. The service is mainly aimed at corporate fleets, car sharing, public transport, and airport shuttles. Bufaga was the winner of the Dock3 program, first classified in the StarCup Lazio, and selected by Mundys to carry out the Pilot Test at Rome Fiumicino Airport (Italy).

3.2.2. G-move

Startup born in 2019 in Florence (www.g-move.com), initially engaged in the panorama of events, following the global Covid-19 it also concentrated in the Smart Mobility field. This reality has developed a platform that allows you to collect information on the movement and return of visitors in physical spaces and onboard means of transport, using their smartphones and managing to distinguish them over time. This reality provides metrics to optimize different aspects of mobility. For example, it is possible to profile frequent or interesting behaviors with respect to different clusters of subjects, profile hourly habits, and send notifications to certain clusters of subjects to improve the travel experience, safety, and livability of spaces and public transport means. The innovativeness of G-move (hereinafter abbreviated to "GM") has been rewarded by numerous national and international organizations, obtaining economic awards and visibility, for example, Invitalia - Smart Contact Tourism, MCE4x4, and VeniSIA.

3.2.3. NExT

Next Modular Vehicles (www.next-future-mobility.com), reported by the Italian Ministry of Transport as one of the startups that will help develop smart roads in Italy, produces modular minibusses with an automatic coupling system, born from the idea of Tommaso Gecchelin, physicist and designer from Padua(Gecchelin and Webb, 2019). The reality has achieved great success in Dubai, since Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates, in announcing the 2030 master plan, tweeted a photo of their product, as a vehicle representing his vision of sustainable mobility.

NExT (hereinafter abbreviated to "NFT") has different scenarios of use: it can be used as a bus with variable capacity, with a significant reduction in consumption and the reuse of idle vehicles for car-sharing, logistics, and services; as a freight transport service, with consequent reduction of warehouses and faster deliveries, and finally in a taxi version, shared and non-stop, allowing a lightning of traffic and ecological impact.

3.2.4. Nextome

Nextome (www.nextome.com) (hereinafter abbreviated to "N"), born in 2014, based in Bari province, is specializing in Software and IoT Systems for mainly indoor Real-Time localization(Dentamaro et al., 2014). In the mobility sector, one of the relevant collaborations is the one with Hitachi STS, a global player in the railway sector, which has integrated Nextome technology into its systems, installing IoT sensors on public transport, stations, bus stops, to allow passengers to use an app to pay only for the route taken. Furthermore, the local transport company has the possibility of monitoring the vehicles in order to adjust the frequency of the service to the needs of the moment.

At the end of 2014, Nextome was nominated as "Most Awesome Alpha Startup of the Year" by the votes received online at Dublin's Web Summit. Global positioning remained the main objective of the company also in the following two years, in which it arrived as a finalist and received awards for some innovation competitions at an international level (IBM's Global Innovators in Barcelona and Young ICT Leaders in Busan, Korea), followed by requests for interest in testing the technology from large international organizations. Nextome has planned a company growth path reaching in three years a turnover of more than 5M €, deriving from the licensed sale of its solutions.

3.2.5. Switch

Switch (getswitch.io), a startup born in 2020, based in Rome, offers a technological platform based on Machine Learning and Artificial Intelligence that aims to optimize the planning and management of sharing mobility. It works with both private operators and local administrations, supporting cities in understanding how many shared vehicles they need and where to position parking and charging stations, and helping operators to better distribute these vehicles and optimize maintenance operations, to ensure that vehicles are booked more often by users. Switch (hereinafter abbreviated to "S") is currently operational in 7 cities (Rome, Milan, Turin, Pescara, Florence, Bari, and Palermo).

3.3. Data collection and analysis

The authors applied a qualitative methodology based on semi-structured interviews to answer the specific research questions. The qualitative approach allows the analysis to become in-depth within a real-world setting (Wu et al., 2014), and allows a deeper understanding of social realities and draws attention to processes, meaning patterns and structural features (Jenner et al., 2004). Furthermore, Massaro et al.,2021 underline how this approach "*allows for researchers to discover, to reveal, and understand relationships between variables even within complex processes, and to illustrate the influence of social context*" (Massaro et al., 2019, p. 275).

Specifically, the authors asked VeniSIA's managing chief for the contacts of the nine start-ups active in MS with which it collaborated. Moreover, the research team also asked for the contacts of two experts on the topics covered without any conflict of interest. All the possible interviewees were contacted via e-mail, requesting feedback within 15 days. Those start-ups that did not respond to the first e-mail message or to the reminder or that did not agree to be interviewed, were not involved. Following this process, five SM start-ups and two experts were identified, specifically an expert in strategic innovation, sustainability management, and business model innovation (defined below as E2), and

an evaluator of innovative projects (designated below as E1). The identified sample allowed us to "*have provided compelling* support *for the initial set of propositions pertaining to the overall multiple-case study*" (Yin, 2018, p. 93), as claimed by Yin, who states this possibility in the case of proceeding with analyses of 6–10 samples.

A research protocol was established to design data collection and analysis, to ensure reliability and validity, while maintaining consistency with the majority literature. In agreement with all authors, a semi-structured questionnaire was designed (Appendix 1). The research group focused on the majority of literature to be taken into consideration in the selection of the topics to be investigated and the questions to be formulated. The research framework was derived by merging the studies of Leviäkangas (Leviäkangas and Öörni, 2020), Snihur (Snihur and Bocken, 2022), Schneider et al. (Schneider et al., 2020), and Radzivon et al. (Radziwon and Bogers, 2019), becoming the basis for the elaboration of the protocol and the structures of the interviews. Further points of analysis were added following the observations of the interviewees. The authors took into account the cited literature to deepen the research topics and interpret the results obtained.

The interviews, carried out in June 2023, had an average duration of 75 min each. They were carried out by the author BH to one/two top management subjects at the company management level for start-ups, and directly to the two experts. The interviews were carried out using the Google Meet platform, recorded and transcribed. The main points of interest were coded for the purposes of the research. Transcription and coding are the result of an activity carried out in the presence of all the authors.

The collected data were analyzed using a content analysis methodology, which systematically analyses text to extract significant chunks of information (Krippendorff, 2018; Spanò et al., 2021). To carry out the analysis, the authors transcribed the content of the interviews into World files. Each of them individually identified first-order analysis topics, extracting the relevant sentences from the text. A table was created, where the various statements between the different topics were brought together, discussed, and ordered as agreed by all the authors (Golafshani, 2013). Second-order themes were created individually by each author. Identified codes were merged and discussed by all authors to reach a consensus and ensure reliability (Table 1).

4. Findings

To analyze the topic, as anticipated, we conducted seven interviews with actors involved in Smart Mobility. Thanks to the process coding, the authors identified six main themes of analysis: flexibility and efficiency, sustainability, security, satisfaction and image, problems, and repeatability of the project.

Our findings show that Smart Mobility increases flexibility and mobility. For example, when talking about travel times, the GM company states:

> "If I, as a transport logistics manager, had in my hands some diagrams that show me which are the strong connections between A and B, I could say: I prioritize those connections, I make them faster, more direct, and more frequent. Then, based on the connections importance, I am going to organize the other services. […] The traveler enjoys shorter transport times and fewer changes from one means of transport to another". (GM)

NFT and S also note a reduction in waiting times. The cause and consequence of flexibility and efficiency is the capillarity of transport, which is detected by S, on the customer side, and by NFT, on the customer, orchestrator, and stakeholder side, thus underlining the possibility of having a better served city.

> "The vehicles collect people […] where they want and bring them to their destination. […] We offer both transport for people who need to move around the city without owning a car, and for those who own a car but want to avoid the morning and evening traffic caused by commuting. Capillarity, combined with a reduced price, ensures that people can avoid using cars". (NFT)

> "We help the operator distribute the vehicles so that they are more easily booked. As a result, the user more often finds vehicles in the right place and at the right time." (S)

In terms of flexibility, N notes the creation of a more flexible transport network and flexibility in the choice of trip. Then thinking about the specific products/services offered, NFT, thanks to the peculiar flexibility of its product, states that this perfects its use in countless scenarios. B instead, speaking of flexibility, underlines the ease of installation of their product.

Numerous economic impacts were also detected, such as cost reduction, albeit of a different nature. In fact, mention is made of the decrease in the cost of electricity, the reduction in the price of the transport service in general and of on-demand transport, systems with lower initial and maintenance costs, with the latter managed more efficiently. Another economic aspect noted is the increase in profits, both real and potential (for example, profit is linked to the efficiency of vehicle distribution). Another aspect covered is missed losses. B declines this concept by talking about avoiding sanctions for failure to comply with sustainability objectives. Further economic reflection is of N, which notes the reduction of necessity for municipality utilities for subsides to support public services.

> "Having an overview of how (the means of transport) are used allows more timely actions that allow us to optimize services. This leads to an increase in profits or in any case a decrease in losses." (N)

Last but not least, GM and E2. The first also detects, thanks to its product, the homogeneity of the data format for monitoring all environments. The second underlines how it is possible to reduce the inspection times of walkable surfaces through human inspection, increasing reports' reliability.

With respect to sustainability issues, our results highlight a clear improvement in sustainability levels thanks to smart mobility. First of all, the startups have highlighted a reduction in the ecological footprint, from different points of view. For example, a general reduction in pollution, given by the efficiency of travel, which is better organized, resulting in fewer vehicles in circulation.

> "Can a vehicle remove pollution instead of producing it? […] The solution we offer, which is also our motto, is removing pollution by driving vehicles! This is possible through the installation of a smart device on the roof of any means of transport, capable of removing pollutants from the air and collecting data relating to air quality. […] According to our estimates, if a vehicle travels for 5000 km, the device is capable of removing 22g of particulate matter, which corresponds to offsetting 80/100% of net emissions, potentially saving two lives." (B)

> "Real-time and remote monitoring of air quality allows intelligent and autonomous analysis of microparticulate." (E1)

Table 1
Data Codification example.

First-order concepts	Second-order concepts	Aggregated dimension
Possible savings thanks to a broader knowledge of the transport landscape in real time	Cost reduction/ profit increase	Flexibility and efficiency
Reducing the need for municipal utilities for subsidies to support public services		
Reduction of the cost of electricity		
Creation of a more flexible transport network	Flexibility	
The product lends itself to numerous usage scenarios		

"Reducing the ecological footprint is a future need. This will allow a better quality of life at sea, more intelligent transport: a revolution in the maritime sector." (E2)

There were then more specific reflections, such as the tendency to be increasingly inspired by the values of sustainability, lower consumption of chemical and electrical products and a cleaner territory. Finally, thanks to specific products from the startups interviewed, have accurate data on the impact and take advantage of notifications.

The theme of sustainability was also developed from the point of view of reducing energy/fuel consumption, in an absolute sense, and linked to the circulation of fewer vehicles. NFT and E2 say:

"Our product allows us to reduce consumption because it adapts supply to demand. So in less crowded hours, I don't have (for example) five modules circulating, but two (for example), saving energy. […] Thanks to this type of product (NEXT modular bus) you save between 50 and 60% of energy, therefore approximately 35,000 euros per year, for each bus replaced with NEXT" (NFT)

"The development of a smart approach in the field of mobility allows a redefinition of security and an increase in efficiency in the energy sector. This, for example, by adopting real-time surveillance and monitoring solutions" (E2)

Finally, B reflects on the future possibility of obtaining conformity certifications, thanks to the installation of their product.

In terms of safety, our studies have revealed an improvement from both a social and health point of view. On a social level, both more general reflections were made and those related to the Covid theme. In general, E2 reflects on the possibility of managing human floods. GM recalls innovative tools through which it is possible to monitor the crowding of vehicles and infrastructures and better manage the distribution of users.

"We offer alerts both in the event of real and forecast overcrowding" (GM)

In addition to the reflection in the Covid context, safety was also discussed from other points of view. For example, NFT declares:

"It is a solution that can join others, not only by increasing or decreasing the capacity, but also by increasing or decreasing the services to which it can be connected. […] An example is the use of our product in medical emergency situations. It's possible to have modules with an internal configuration very similar to a standard ambulance, modules that offer life support, modules containing large medical devices, which makes sense to use only in certain types of accidents … " (NFT)

Again NFT, states that the vehicles they propose are safer than a normal car. Instead B, thanks to its product, thinks of greater safety given by lower levels of pollution. In fact he claims a reduction in long disease, morbidity and mortality. E1, in the end reflecting on Venetian problems (but which are not exclusive to Venice) states that there is the possibility of obtaining relevant data on the evolution of floods on short time scales, which in certain situations could also have positive impacts on a safety level.

In relation to satisfaction/image, thanks to smart mobility, a general improvement is noted. Specifically, startups note a general increase in quality of life and better knowledge of their environment. Thanks to innovative services, constant circulation is guaranteed, even in limited traffic areas, guaranteeing a better-served area. This leads to better customer satisfaction, fewer complaints, and a greater possibility of differentiating yourself and being chosen on the market.

In particular, two actors highlight the better travel experience (GM, N). One of them underlines:

"[…] Rather than purchasing two singles (tickets), the company (thanks to our product) has the possibility, even for very short routes, to charge you a micro amount. […] Tickets are often bought and then not used. Mobility As A Service […] translates into a better travel experience." (N)

E2 thinks from the tourist's point of view, reasoning about the possibility of being able to track good behavior during a stay, and enjoy advantages for a possible subsequent visit.

A reflection is also made both on the green image and on the possible diffusion of sustainable values.

"One value that we can offer through the community is certainly the dissemination of sustainable value" (B)

Speaking now of the problems detected by the companies, one of the situations detected is skepticism towards innovation. Specifically, NFT explains:

"The main problem can be not so much in B2C, but in B2B. Many of these operators, and stakeholders who could be our customers, especially in Italy, have a certain skepticism towards innovative solutions. Many say:

"We have always done it this way, why should we change? Why should we use something that is so innovative but has never been tested? Why should we be the ones to test something on which there are such important safety constraints?" (NFT)

Closely linked, and a consequence of this skepticism, on which NFT still reflects, is the non-capillary and homogeneous diffusion of the service.

Company B adds:

"One of the difficulties is certainly adapting the business model to the customer model. We are also very closely linked to legislation." (B)

Always B refers difficulties in capturing the citizen's sensitivity with respect to sustainability issues that do not derive directly from a legal obligation.

Data management/privacy problems are also highlighted by N and S.

Problems linked instead to the specific services of each startup are: the need to install hardware on site, efforts to adapt the system to the different pricing logics of each applicant, promote the use of required app and achieve high usage rate. Finally, the efficiency in the use of vehicles certainly leads to a lower use and sale of private vehicles.

As regards the repeatability of the project outside of Venice, and the influence that Venice may have had on the projects, the thing that startups have in common is the clear presence of influence and inspiration.

"One of our projects, specifically the one with the municipality of Florence, was inspired by Venice (Smart Control Room). The first experimentation will start with different technologies, including ours. So the Venice model was definitely an inspiration for us". (GM)

"Venice is a city to be preserved. There is a transport system that is unique in the world. And it is precisely there that technology can help. Instinctively people follow the crowd, and it would be useful to create alternative routes. For now, we have not had interactions but we are trying with VeniSIA to create some dialogue for experimenting with flows". (N)

"The platform was created to be applied to a classic urban context. Nothing takes away from being able to operate in a peculiar context like that of Venice, both in terms of planning and management and monitoring … whether data arrives from sharing scooters or from gondolas, in reality, the platform does not change".(S)

"Venice can be a benchmark in terms of SM, especially in transforming tourism dynamics. The same levers of digital and technological revolution that have led to the risk of deterioration should now be used to control the phenomenon." (E1)

Suggestions for improvement were also provided.

"Given that Venice is the fourth city in Italy with the worst air quality, certainly (installing on means of transport our product) would have a positive impact. For example, it is possible to install the technology on vaporettos, etc. It would thus be possible to both map air quality effectively and remove pollutants." (B)

"One idea could certainly be to use it as a shuttle from the car parks to the pedestrian entrance to Venice. Currently, there is the "people mover", which however in crowded periods, involves very long waiting times, and does not cover all the car parks in the area. Our product could maximize the service, and adapt to more or less crowded periods, based above all on tourist flows." (NFT)

"The key resource for leveraging change and enabling new, more dynamic business models, is represented by data and their management: collection, storage, analysis, and transformation aimed at making operational decisions.

Technological advances have transformed the way tourism is approached and organized, the search dynamics, the interaction with businesses, and the tourist's experiential expectations. Venice can move from the logic of the "value chain" to that of the "value network" and, therefore, facilitate a paradigm shift in tourist destinations: from "package" to "algorithm."

Through the analysis of data, structured and unstructured, which develop through the various digital channels, in different formats, and at a sustainable speed only by new generation technologies, it is possible to guarantee companies in the tourism sector a series of accurate and detailed information on the behaviors of their acquired and potential customers." (E2)

5. Discussion

In this paragraph, the authors present the analytical results of the interviews (Appendix 2).

Our results show that Smart Mobility increases flexibility and mobility. Specifically, in agreement with Boschian et al. (Boschian and Paganelli, 2016), reduction in waiting and travel times, as stated by El Beyrouty et al., 2018. This means reaching the desired destination easier and faster. This is an advantage for users, but also for the cities that are better served. The results obtained on the capillarity of transport complement the existing literature on the subject, which speaks of a general improvement in traffic efficiency (Beyrouty et al., 2018) and encouragement of intersectoral flows of productive elements such as people, information, and capital (Ma et al., 2018). NFT strongly underlines the possibility of improving geographical capillarity, better serving the cities that benefit from modular transport and offer quality equal to a taxi service. Following and expanding on the current literature which speaks more generally about transport efficiency (Ma et al., 2018), the interviewees underlined the flexibility both in the choice of journey and transport network, as well as the possibility of using different service scenarios, depending on the needs of the user and the circumstance. The reduction of costs, given by the efficiency in management, together with the strong flexibility, led the public users increasingly towards a panorama of personalized services. Linked to efficiency is certainly the increase in operators' profits. From the results obtained, it emerges that Smart Mobility allows the provision of flexible and convenient mobility services while reducing total mobility costs, in agreement with Pütz et al., (2019) and Ma et al., (2018). In addition to what is present in the literature, it also emerges from the interviews the concept of missed losses, thanks to new services that also allow the payment of micro amounts, personalizing the service. Interesting practical and political implications also emerge from the results obtained: the reduction of the need for municipal utilities for subsidies to support public services, avoiding penalties for non-compliance with targets, and possible savings thanks to a broader knowledge of the transport landscape in real-time.

Regarding sustainability issues, our results highlight a clear improvement in sustainability levels thanks to Smart Mobility. Specifically, our results are in line with the literature regarding the reduction of fuel, energy, consumption, and emissions (Edwards et al., 2018; Malone et al., 2014; Beyrouty et al., 2018) with a positive impact in the field of sustainability (Ma et al., 2018). There appear to be new reflections on the future possibility of obtaining certifications of compliance/implementation of data in sustainability reports thanks to the accurate data that emerge from the new technologies proposed.

On safety topics, the literature highlights an improvement in the same (Malone et al., 2014). Thanks to our results, the theme is explored in greater depth. The interviewees reflect extensively on the usefulness of being able to monitor and direct traffic, to avoid crowding, also in light of recent epidemics. Furthermore, it reflects on the health impact that smart mobility can have. For example, it will be possible to enjoy much more timely emergency and rescue service, equipped with the tools necessary for the individual case.

Our results relating to satisfaction confirm what is presented so far in literature (Billot et al., 2014; Leviäkangas and Öörni, 2020). In fact, the interviewees underline, in agreement with previous studies, the offer of innovative services, a better citizens' quality of life, and a better travel experience. Furthermore, the literature also reflects on the possible increase in job offer (Ma et al., 2018), an absent theme in our results. The theme of the image is not very developed. Our results hint at a green image for users of SM services and the possibility of differentiating themselves and emerging compared to other players on the market, better managing tourist flows.

The problems highlighted by scholars and emerging from our studies are often common: the non-capillary diffusion of the phenomenon (Pütz et al., 2019; Ma et al., 2018; Karapantelakis and Jan, 2017), the strong dependence on regulations and the difficulty of managing privacy (Pütz et al., 2019; Ma et al., 2018; Karapantelakis and Jan, 2017; Kiometzis, 2018), a misalignment of business models (Ma et al., 2018; Adner, 2017; Radziwon and Bogers, 2019), the benefits that are not necessarily monetary (Leviäkangas and Öörni, 2020) and the difficulty of coordinating actions among numerous stakeholders (Platform, 2017) (Table 2).

The literature reasons for the huge investments and the risk of obsolescence required by SM (Sjoberg et al., 2017) operations, on the

Table 2
Summary of identified problems.

Identified problems in the creation of value in ecosystems	
Customer	NFT skepticism towards innovative solutions, or solutions that have never or little tested GM Need to install hardware on site B Difficulty in fitting the business model with the target N effort to adapt the system to the different pricing logics of each applicant being extremely heterogeneous
Orchestrator	NFT skepticism towards innovative solutions, or solutions never or little tested B Strong dependence on regulations N promote the use of an app and difficulty in achieving high usage rates S Problems/difficulties in data management (privacy)
Satellite Stakeholders	N maintain different ticketing systems during the transition phase NFT Non-capillary and homogeneous diffusion of the service NFT Distrust of innovative services NFT The fully operational service would lead to the transport of more people in fewer vehicles, therefore the sale of less material. Furthermore, once fully operational, there would be a reduction in the sale of private cars GM Active employment that requires an app and therefore a small audience B Difficulty in capturing the citizen's sensitivity with respect to sustainability issues that do not derive directly from a legal obligation N privacy (the user activate location services)

lack of tools for estimating costs and benefits estimation (McGiffen et al., 2017; Vreeswijk et al., 2014), with consequent uncertainty about them. Our results deepen these reflections by revealing a skepticism towards innovative solutions, or solutions that have never or little been tested. Furthermore, this is reflected in the fact that, in relation to a specific service described, the fully operational service would involve the transport of more people with fewer vehicles, therefore, the sale of fewer materials/products/services on the market. Furthermore, once fully operational, there would be a reduction in the sale of private cars, and this could constitute an initial commercial brake. In the event that the innovation requires the application of apps or the use of platforms, these require installations, the promotion of their use, and often limited diffusion, with an often limited audience. The literature reflects on the fact that one of the problems could be the increase in flexible working/emerging precarious work (Standing, 2021), a theme that did not emerge from our results.

6. Conclusions

Over the past twenty years, the weight of problems such as climate change, growing pollution, and energy issues have stimulated growing attention to creating a sustainable future. In order to achieve sustainability objectives, it is necessary for companies to also focus on changing their business models using an ecosystem logic to promote a cultural change in local entrepreneurial and economic logic at a broader level. In fact, the literature highlights how the strategic challenge to be overcome is not so much making companies more responsible towards people, the environment, and territories, but changing the concept of business from a mere creator of economic value to a producer of shared value, thus from "value" creation to "worth" creation. In this sense, the context of Smart Mobility appears particularly relevant, a cornerstone in the construction of Smart City, where traditional networks and services are made more efficient through digital solutions for the benefit of its inhabitants and businesses, thanks to the creation of shared value.

As suggested by recent literature, research on sustainable models should go beyond the question of economic profitability and customer value creation, focusing on the broader impact on BEs, society, and the planet. Although studies have been conducted on value creation from an ecosystem perspective, the dynamics are still difficult to understand and require further investigation. Our manuscript, through a case study of seven actors involved in SM, investigates the values generated at an ecosystem level, focusing on the different actors present, with a reflection on Venice, the world capital of sustainability.

The results of our case study, despite emerging from the analysis of a small number of analyzed samples, confirm what is present in the literature, broadening the field of analysis and suggesting proactive actions. SM increases mobility, offers flexibility, and guarantees greater capillarity and personalization of the service. At the same time, it allows a reduction in costs for both operators and users, becoming both an economically interesting activity to carry out for entrepreneurs and a positive panorama for municipalities, which appear to be better served and less economically committed thanks to the lower subsidies required. There is an improvement in the quality of life in general and specifically in the user's travel experience. the positive impact on the environment is also indisputable. There is a decrease in energy consumption, fuel, and polluting emissions. However, there are some obstacles that the company has not yet resolved. First of all, distrust and skepticism towards actor are still widespread feelings. No less relevant is the economic interest present in the sales of materials/services, which will decrease thanks to efficiency, together with the difficulty of capturing sensitivity on topics/actions that often do not derive from legal obligations. We must also contend with the still patchy diffusion of these realities, often caused by stringent regulations, data management difficulties, and privacy issues, but also by the frequent need to install hardware or install dedicated apps and the general misalignment of business models.

In this context, what are the contributions that Venice has made and can make? The world capital of sustainability is, as mentioned, the perfect context for experimenting with sustainable ideas and solutions, valid for its fragile ecosystem but at the same time scalable, for the benefit of the entire planet. Venice is a city with a unique mobility system, determined by the general complexity of the environmental context, by the almost exclusive pedestrian area of the island, and by the huge tourist flows. Our research highlights how the SM ideas active in Venice have already been a source of inspiration for other cities. Furthermore, various proposals/solutions applicable to Venice have emerged, to preserve its context, but at the same time improve its connections.

First of all, it would be useful to proceed in the future with the study of a larger sample of entities and stakeholders involving different parts of the ecosystem. This now appears difficult for the topic, which is still innovative and not widely known. Widespread literacy of the benefits and potential of MS could certainly be the solution to the present mistrust and skepticism. No less important would be the regulatory interventions, which should accompany, hand in hand, the complex development of the phenomenon.

It is therefore necessary for all the actors in this complex ecosystem to join forces to overcome the obstacles currently present, moving ever closer to the objectives of sustainability and protection of the territory which are now imperative for all of us.

CRediT authorship contribution statement

Helena Biancuzzi: Data curation, Writing – original draft, Writing – review & editing. **Maurizio Massaro:** Conceptualization, Writing – review & editing. **Carlo Bagnoli:** 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

Data will be made available on request.

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Appendix 1. Document shared during interviews for data collection

Your Business Ecosystem	Orchestrator: Satellite reality: Customer: Stakeholder:
How was your reality born? **What is your mission?** **Please, describe the start-up's activity** **Where are you based? and where do you work?** **In your opinion, would it be possible to insert your product into an ecosystem like that of Venice?** **Was Venice an inspiration/stimulus for you?**	

Continue.

The Different types of value generated in Smart Mobility ecosystems					
		Customer value	**Orchestrator value**	**Satellite reality value**	**Stakeholder value**
Flexibility and efficiency	**Reduction of travel/waiting times** **Capillarity of transport** **Flexibility** **…** **…**				
Sustainability	**Reduction of the ecological footprint** Reduction of energy/fuel use **…**				
Security	**Social security** **Health security**				
Satisfaction/Image	Satisfaction Image …				

Appendix 2. Summary of different types of value generated in Smart Mobility ecosystems

The Different types of value generated in Smart Mobility ecosystems					
		Customer value	Orchestrator value	Satellite reality value	Stakeholder value
Flexibility and efficiency	**Reduction of travel/waiting times**	GM Better interconnection of places S Reduction of waiting times	N More timely actions to optimize services and make them more timely/punctual		NFT GM N Reduction of travel times NFT GM Reduction of waiting times
	Capillarity of transport	NFT S Improved offer in geographical capillarity	NFT Better served city		NFT Capillarity improvement
	Flexibility	NFT The product lends itself to numerous usage scenarios B Ease of assembly	N Creation of a more flexible transport network		N Flexibility in the choice of trips
	Ease of data exchange	GM Data format homogeneity for monitoring all environments	E2 Reduction of the inspection times on walkable surfaces by human inspection and increase in reliability of reports		
	Cost reduction/ profit increase	NFT Reduction of the cost of electricity GM System with low initial and maintenance cost B Avoid penalties for non-compliance with targets N Increase in potential profits	NFT Reducing the need for municipal utilities for subsidies to support public services B Avoid penalties for non-compliance with targets N Increase profits/reduce losses S Greater profits thanks to the efficiency of the distribution of the vehicles S More efficient maintenance management	B Profit increase	NFT Transport costs halved by making accessible an on-demand service that is currently expensive GM Possible savings thanks to a broader knowledge of the transport landscape in real time N Economic savings for optimizing the choice and paying for actual use
Sustainability	**Reduction of the ecological footprint**	NFT Travel optimization GM Saving chemicals and saving electricity N S Better distribution of services S Potential reduction in the overall number of vehicles used B Reduction of pollutants E2 Improved quality of life at the sea, smarter transportation and a revolution in the maritime industry	NFT Cities relieved of traffic and consequently of pollution B Have accurate impact data N Be inspired by sustainability trends that could be imposed B Reduction of pollutants E1 smart autonomous micro-particulate analysis for real-tima and remote water quality monitoring E2 Improved quality of life at the sea, smarter transportation	GM Optimization of consumption and wear of systems S Territory with lower environmental impact thanks to traffic efficiency B Reduction of pollutants E2 Improved quality of life at the sea, smarter transportation and a revolution in the maritime industry	NFT The potential reduction in the use of own vehicles leads to a reduction in pollution NFT The production of vehicles is reduced, as the use of those present is optimized (more passengers in fewer vehicles) GM Ability to take advantage of notifications and help sustainability B Reduction of pollutants E2 Redefine security and

(*continued on next page*)

(*continued*)

The Different types of value generated in Smart Mobility ecosystems					
		Customer value	Orchestrator value	Satellite reality value	Stakeholder value
			and a revolution in the maritime industry		efficiency in the energy sector through real-time surveillance and monitoring solutions E2 Improved quality of life at the sea, smarter transportation and a revolution in the maritime industry
	Reduction of energy/fuel use	NFT Savings of 50–60% of energy/year for each bus replaced with the proposed system			NFT Potential reduction in the use of one's own vehicle to move, with a consequent reduction in the use of fuel
	Certifications	B Future possibility of obtaining compliance certifications; data implementation in sustainability reports			
Security	**Social security**	GM Real-time update and possible overcrowding forecasts N During the covid being able to better distribute users (now we are talking about better comfort offered)	GM More accurate wear estimates E2 Manage human floods		NFT The vehicle is safer than a normal car GM Real-time update and possible overcrowding forecasts N Increased safety/comfort compared to crowding E1 Relevant data about flood evolution on short time scales
	Health security	B Reduction of long disease and morbidity, mortality	B Reduction of long disease and morbidity, mortality	B Reduction of long disease and morbidity, mortality	B Reduction of long disease and morbidity, mortality NFT More widespread and personalized emergency services possible
Satisfaction/ Image	**Satisfaction**	B Better knowledge of your environment N Offering an innovative service N greater chance of being chosen on the market S Better customer satisfaction E2 Track good behavior during a visit, and obtain benefits for the next time	B Reduction of protests B Increase in the quality of life of citizens		GM N Best travel experience B Increased quality of life B Constant circulation and in a restricted traffic area
	Image	B Green image B improving sustainability report N Differentiation compared to other players in its market	B Green image N Image of a well-served area	S less polluted area S Territory better served	B Green image
	Spreading value through the community	B Dissemination of sustainable values	B Dissemination of sustainable values	B Dissemination of sustainable values	B Dissemination of sustainable values

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