



DESIGNING ACCESSIBLE TOURISM EXPERIENCES: SLOW, SENSORY AND SMART FRAMEWORK

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ABSTRACT

Slow tourism is an emergent research area focused on slowing the pace of life during vacations. A comprehensive multi-sensory approach can contribute to designing enhanced slow tourism experiences deemed accessible, both in situ and remotely. There is a research gap in considering multi-sensory stimuli in the design of accessible tourism experiences using technology. As such, this research intends to propose a theoretical framework focused on the development of slow tourism through sensory cues and smart technologies. In so doing, a critical approach to literature was carried out by intersecting three areas of literature following the rationale of the Stimuli-Organism-Response model: slow tourism, multi-sensory tourism experiences design, and smart destinations. The significance of this framework is threefold: it strengthens local identities and aids sustainable tourism by involving the community; it promotes experiences deemed authentic considering multiple stakeholders' perspectives; and it addresses the visitor experience before, during and after the visit to the destination in an accessible manner using smart technologies. A framework with six steps is offered based on participatory methods.

KEYWORDS

Slow tourism, accessible tourism experiences, multi-sensory tourism; smart destination; experience design; technology

RESUMEN

El turismo lento es un campo de investigación emergente centrado en ralentizar el ritmo de vida durante las vacaciones. Un enfoque multisensorial integral puede contribuir a diseñar experiencias de turismo lento mejoradas y consideradas accesibles, tanto in situ como a distancia. Existe un vacío en la investigación sobre la consideración de los estímulos multisensoriales en el diseño de experiencias turísticas accesibles mediante el uso de la tecnología. Por ello, esta investigación pretende proponer un marco teórico centrado en el desarrollo del turismo lento a través de señales sensoriales y tecnologías inteligentes. Para ello, se ha llevado a cabo una aproximación crítica a la literatura mediante la intersección de tres áreas bibliográficas siguiendo la lógica del modelo Estímulo-Organismo-Respuesta: el turismo lento, el diseño de experiencias turísticas multisensoriales y los destinos inteligentes. La importancia de este marco es triple: refuerza las identidades locales y ayuda al turismo sostenible mediante la participación de la comunidad; promueve experiencias consideradas auténticas teniendo en cuenta las perspectivas de múltiples partes interesadas; y aborda la experiencia del visitante antes, durante y después de la visita al destino de una manera accesible utilizando tecnologías inteligentes. Se ofrece un marco con seis pasos basado en métodos participativos.

PALABRAS CLAVE

Turismo lento, experiencias turísticas accesibles, turismo multisensorial; destino inteligente; diseño de experiencias; tecnología.

1. INTRODUCTION

The interest in slow tourism (ST) from a research and practical perspective has grown in the last decade (Manthiou et al., 2022; Mavrić et al., 2021). Following the rationale of the slow movement that started in the 1980s, ST is a relatively new area of study. While existing research is still limited and primarily theoretical or exploring aspects associated with food, motivations, and modes of travel, in general, ST is strongly linked to the idea of place attachment and sustainable development of tourism destinations (Lin et al., 2020; Mavrić et al., 2021; Özdemir & Çelebi, 2018). This emergent research area is based on the idea of slowing the pace of life during the holidays, and it is characterised by the pleasure of discovery, learning, and sharing experiences that can be perceived as authentic and distinctive (Ekinçi, 2014; Heitmann et al., 2011; Manthiou et al., 2022; Mavrić et al., 2021; Petrini, 2001).

Typically, the literature establishes technology as one of the promoters for a fast pace of travel, which is associated with mass tourism forms (Mavrić et al., 2021), especially in urban contexts. On the one hand, technology has been approached as conflicting with the rationale of ST since it is recognised that both tourists and residents need to switch off from technology. On the other hand, current research stresses the advantages of using smart technologies to find solutions for contemporary challenges in tourism destinations (Coca-Stefaniak 2020). Indeed, technology can be utilised to contribute to withstand tourism during and after the COVID-19 pandemic and achieve sustainable competitiveness (Del Chiappa & Fotiadis, 2021; Errichiello & Micera, 2021). Also, smart technologies are key in designing accessible experiences by following universal design principles (Darcy & Dickson, 2009; Lam et al., 2020; Lauría, 2009). It is estimated that around 15% of the world's population experiences a form of disability (World Health Organisation, 2011). The figures are likely to increase due to the phenomenon of ageing populations (e.g., mobility issues) and chronic health diseases (UNWTO, 2016; Singh et al., 2021). Research interest in tourism and disability has grown in the last few years. This phenomenon is aligned with the tourism industry's concerns in facilitating positive tourism experiences for all. In this context, a specific line of

research has been centred on accessible tourism, and it links to sustainability (Singh et al., 2021).

A recent research strand argues that technology can be used to optimise multi-sensory aspects of unique local resources (Agapito, 2022; Alyahya & McLean, 2022). This process can cater to more accessible experiences (Agapito, 2020; Huang & Lau, 2020; Santos et al., 2022). Despite the dearth of studies, there is some evidence related to the potential of a holistic approach to multiple sensory components (visual, auditory, olfactory, gustatory, and tactile) in developing enhanced tourism experiences deemed accessible for all. This approach includes visitors with mobility or sensory disabilities, remotely and during the visit (Agapito, 2020; Darcy & Dickson, 2009). Previous research emphasises the relevance and opportunities of using virtual reality (VR), augmented reality (AR), smartphone apps, quick response codes (QR codes), virtual maps, and online platforms to enhance visitors' experiences via specific sensory stimuli related to destinations, products and services (Guttentag, 2010; Lam et al., 2020; Lin et al., 2020; Yung et al., 2021). This process can be optimised and customised through GPS and Geographic Information System technologies. It can also be associated with social media platforms. Indeed, the increasing impact of ICTs (Information and Communication Technologies) shaped destination management approaches, characterised by the integration of technology and data management, which requires adequate governance (Ivars-Baidal et al., 2019).

All three research areas – ST (e.g., Serdane et al., 2020), multi-sensory tourism experiences design (e.g., Agapito, 2020), and smart destinations (Ivars-Baidal et al., 2019) – advocate that all stakeholders, including tourists and residents, should be considered in major managerial decisions in a participatory manner to guarantee sustainable tourism development. The process of linking this rationale to sustainable forms of tourism, such as ST, contributes to meeting the United Nations Sustainable Development Goals (<https://sdgs.un.org/goals>) in tourism destinations. Also, this approach addresses the objective of slow cities network related to advocating "the culture of good living through research, testing and application of solutions for the city organisation" (<https://www.cittaslow.org>). Manthiou et al. (2022) call for more research to understand the coexistence between the use of "fast" tools by tourists (technology, internet), the slow mindset, and the philosophy related to slow

movement. Yet, there is a knowledge gap in the context of optimising multi-sensory stimuli to design sustainable and accessible tourism experiences, considering the slow movement and technology.

In light of existing literature, this research proposes a framework based on a holistic process that combines multi-sensory stimuli centred on local resources, participatory methods, and virtual and augmented environments in the context of ST. This approach is informed by Stimuli-Organism-Response (SOR) theory in environmental psychology (Mehrabian & Russell, 1974). Our rationale is that the experiencescape, which relates to the external environment in destinations (e.g., sensory stimuli, technologies), can impact the tourist experience by making it more positive and accessible. This process can result in favourable outcomes for individuals and destinations (Chen et al., 2020; Lin et al., 2022; Tasci & Pizam, 2020).

This research argues that this approach can enhance the opportunities for appreciation and learning processes both in loco and remotely at a slower pace. This rationale allows for designing tourism experiences considering different needs and requirements. The theoretical contribution of this research is thus the integration of multi-sensory experiences design, smart technologies and slow tourism into a framework aiming to design tourism experiences that are accessible and sustainable. On the other hand, this paper discusses governance and managerial implications and proposes a practical six-step process to implement the resulting theoretical framework.

2. KEY THEMES ON SLOW TOURISM, MULTI-SENSORY EXPERIENCES AND SMART DESTINATIONS

2.1) SLOW FOOD, SLOW TRAVEL, AND SLOW PLACES

In a COVID-19 scenario, labour flexibility, the proliferation of low-cost airlines, and the increase in the offer of accommodation, together with the pleasure of discovering new places, led to a rise in leisure travel throughout the year, albeit for shorter periods (Fleischer et al., 2011; Lenzen et al., 2018; Salmasi et al., 2012). Recognised as an activity with strong ecological footprints (Dolnicar, 2020; Fleischer et al., 2011), the entities responsible for mitigating climate change call for touristic practices that are compatible with environmental sustainability criteria, namely the

use of sustainable modes of transport and extended stays (Gössling et al., 2018; Losada & Mota, 2019). Within this context, the "slow" movement is anchored on the slow food movement initiated in Italy in the 1980s. This movement focuses on respecting nature's rhythms, traditional products' quality (Petrini, 2001), and the environment (Ekinici, 2014; Fusté-Forné & Jamal, 2020).

Slow travel is an emerging concept related to the tourist's journey (Conway & Timms, 2010). This approach emerges as a response to environmental concerns associated with the ecological footprint caused by traditional modes of transport in the scope of mass tourism (Fusté-Forné & Jamal, 2020). Slow travel is compatible with the principles of sustainable travel and implies that tourists travel less, prefer longer stays and enjoy their visits to places in a slower manner (Conway & Timms, 2010; Dickinson et al., 2010).

The slow movement has extended to cities, which led to the emergence of the Slow Cities Movement. The latter represents the engagement of cities and places with the adoption of policies encouraging tourists to engage with local communities (<https://www.cittaslow.org/content/philosophy>). Thus, the focus is on the development of local communities, and the key values are the local identity, uniqueness, and the sense of place (Jung et al., 2014; Manthiou et al., 2022; Mavrić et al., 2021). Slow Cities Movement embraces the objective of contributing to improving residents' quality of life (Miele, 2008) and is framed in the principles of sustainable travel (Le Busque et al., 2022). The Cittaslow network proliferates in many countries with a particular focus on Europe and other continents (Perano et al., 2019).

Against this background, ST is a form of tourism based on the principle of deceleration. It considers holidays as a period of leisure and relaxation during which tourists excel in respect for local culture, history, and the environment, valuing social responsibility and celebrating the diversity and relationship between people (other tourists and host communities).

2.2) SLOW TOURISM AND DESTINATIONS

To some authors, ST appears as a reaction to mass tourism (Conway & Timms, 2010; Meng & Choi, 2016; Oh et al., 2016). The former adopts a holistic perspective,

including several tourism activities at the destination (Conway & Timms, 2010; Meng & Choi, 2016). Some examples are walking, cycling, guided walks, local attractions, gastronomy, handicrafts, festivals and events, and local markets (Caffyn, 2012; Conway & Timms, 2012; Meng & Choi, 2016; Werner et al., 2021). Tourists can choose sustainable transport modes, spend more time in each place, immerse themselves in local culture, and buy local products, thus minimising the ecological footprint and contributing to local development (Caffyn, 2012; Dickinson, 2015; Heitmann et al., 2011; Manthiou et al., 2022; Meng & Choi, 2016; Serdane et al., 2020). These contexts encourage tourists to experience an authentic, higher quality and more enjoyable experience (Conway & Timms, 2010; Meng & Choi, 2016; Oh et al., 2016).

In previous studies, ST has been closely attached to nature-based tourism, rural tourism (Serdane et al., 2020), cultural tourism (Pecsek, 2016), as well as food tourism (Heitmann et al., 2011). The literature recognises that slow tourists are more engaged with places and local people and more attached to the destination than other tourists (Dickinson & Lumsdon, 2010; Han et al., 2019; Meng & Choi, 2016; Shang et al., 2020). Therefore, ST is acknowledged as a trigger for promoting local businesses and specific locations at destinations (Conway & Timms, 2010; Pecsek, 2016).

According to some authors, there is a connection between this approach and ecology and sustainable development (Lin et al., 2020; Mavrić et al., 2021; Manthiou et al., 2022; Özdemir & Çelebi, 2018). This rationale comes from an interest in place, and green travel (Dickinson & Lumsdon, 2010). Kim et al. (2021) consider that citizens' increased environmental awareness can lead to the adoption of more sustainable behaviours. In response to this trend, governments try to implement measures to preserve natural environments. The component of environmental responsibility may indeed be an opportunity for ST. Other authors point out, however, that attracting more visitors to slow destinations may contradict the fundamentals of the Slow philosophy (Heitmann et al., 2011) and jeopardise the desired sustainable development.

ST refers to the activities that tourists are involved in during their stay at the destination (Conway & Timms, 2010; Conway & Timms, 2012). Therefore, tourism providers endeavour to reinforce the sense of place and set the stage where tourists

are engaged with local culture (Pawlusinski & Kubal, 2018) towards deceleration (Lumsdon & McGrath, 2011). Even in these contexts, it is recognised that slow tourists are using technological devices associated with their usual lifestyle (Lannoy, 2016). Thus, it is relevant to conceptualise ways to make the slow philosophy compatible with new technologies like laptops, tablets, and smartphones, which are commonly associated with fast practices (Le Busque et al., 2022; Lin et al., 2020; Manthiou et al., 2022; Markwell et al., 2012). The ST approach has received criticism concerning the negative economic impact these options can have on destinations (Boley, 2015). Still, choosing local options and increasing the length of stay trigger positive multiplier effects that generate employment and income for local populations (Caffyn, 2012; Serdane et al., 2020).

Academic research on the motivations of slow tourists found that those who embark on ST proposals do so for self-interest and not, as might be expected, for the reasons that underlie the Slow philosophy. Self-interest and experiential motivations are common drivers of ST (Lin, 2017; Oh et al., 2016; Özdemir & Çelebi, 2018). Although present in tourists' concerns, environmental reasons are not the primary motivations (Dickinson et al., 2010). The slow mindset aligns with the principle of experiencing the place and what it offers from a self-defined rhythm.

The concept of "slow destinations" emerges based on the idea of "a destination with 'slow' potential that could optimise the rationale of 'slow' to become a differentiated regional destination brand" (Shang et al., 2020, p. 2). This approach highlights the importance of distinctive features, a sense of place and place identity (Losada & Mota, 2019; Shang et al., 2020). In fact, previous studies found a connection between ST, destination experience and place attachment (Dickinson & Lumsdon, 2010; Han et al., 2019; Lumsdon & McGrath, 2011; Shang et al., 2020). As a slow destination, Latvia was one of the first places to apply the slow philosophy at a national level and incorporate slowness in the destination brand (Serdane et al., 2020).

A tourist's experience in an ST destination can be strongly engaging as the traveller's sensory experiences are stimulated by natural sights, perceived authentic environments, local flavours, engagement with locals, or special events. Specifically, sensory experiences tend to be triggered by nature-based tours of the destination or local gastronomic experiences, for example. These sensory experiences are drivers

of positive tourist outcomes (e.g., satisfaction, behavioural intentions, and place attachment) (Kastenholz et al., 2020; Shang et al., 2020; Werner et al., 2021).

2.3) COMPONENTS OF SLOW TOURISM

ST is marked by environmentally friendly attitudes and behaviours associated with eco-friendly transport, extended stays, and small-scale travel. Physical slowing down and preference for local products (crafts, food, art and accommodation) guarantee engagement with local life and the authenticity of an experience in which quality comes at the expense of quantity (Fullagar, 2012; Lumsdon & McGrath, 2011; Manthiou et al., 2022; Markwell et al., 2012; Pawlusiński & Kubal, 2018; Petrini, 2001; Serdane et al., 2020; Sun & Lin, 2018; van Bommel & Spicer, 2011). The various elements that characterise ST are systematised in Figure 1.

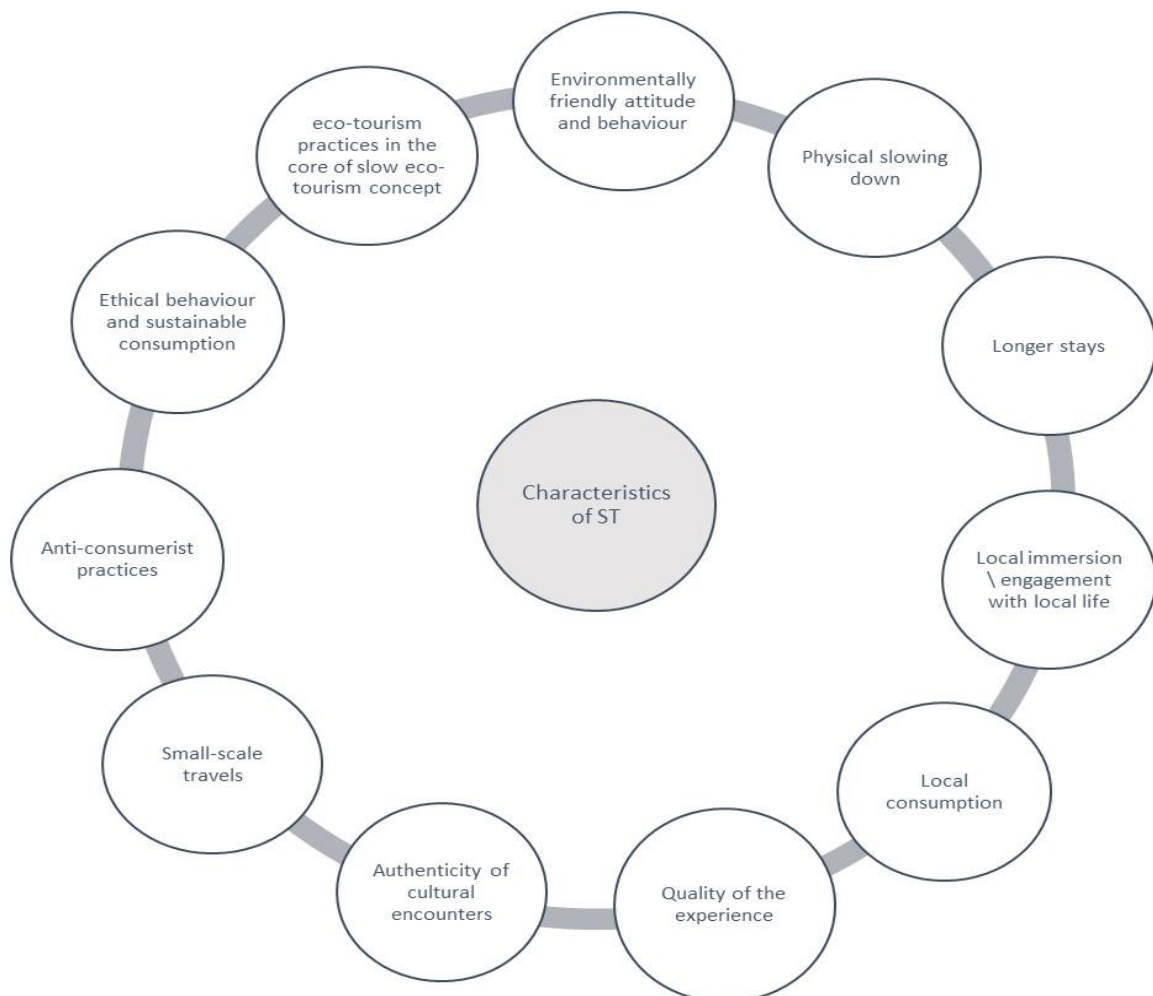


Figure 1. Characteristics of ST (Own elaboration based on Manthiou et al., 2022; Serdane et al., 2020).

Informed by previous literature and empirical research focused on tourists and tourism providers (public and private), Serdane et al. (2020) propose four dimensions of ST: environmental, experiential, economic, and ethical (Figure 2). According to the authors, although present, the environmental, ethical, and economic dimensions proved to have less relevance and are considered natural consequences of the practice of ST. The experiential dimension turned out to be the central aspect of ST translated into immersion in the local culture and the interaction with hosts. This finding is aligned with the primary experiential tourists' motivations for engaging in ST (Lin, 2017; Oh et al., 2016; Özdemir & Çelebi, 2018).

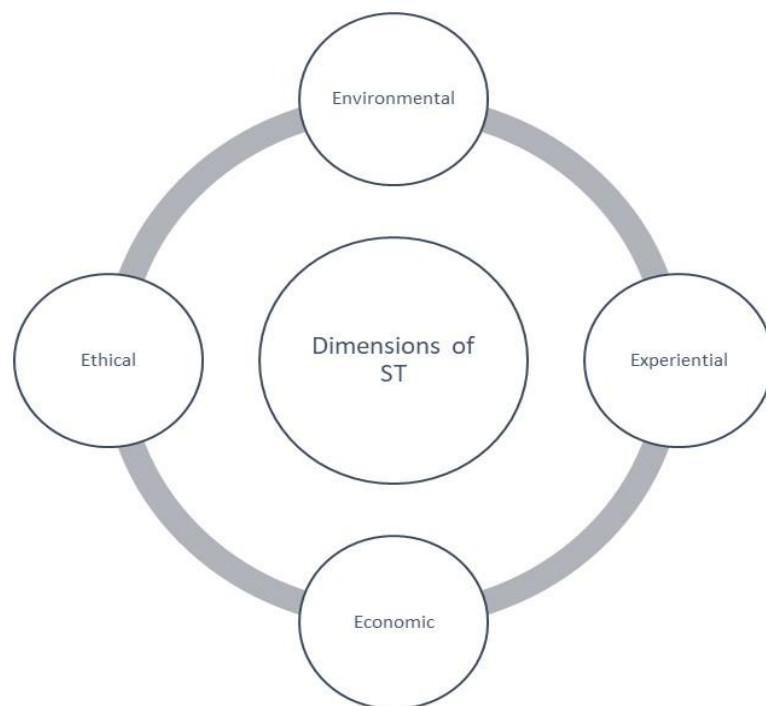


Figure 2. Dimensions of ST (Own elaboration based on Serdane et al., 2020)

2.4) MULTI-SENSORY EXPERIENCES DESIGN

Individuals perceive environments through external surroundings' stimuli through their senses (e.g., sight, touch, smell). This process impacts emotions, cognition, behaviours, attitudes, learning/memory (Krishna, 2012), and well-being (Tan et al., 2020). A recent strand of research in tourism studies has acknowledged the role of the senses as a critical dimension of tourism experiences. This contemporary line of research stresses the relevance of multi-sensory stimuli in the design of tourism

experiences and sustainable destination development (Agapito, 2020; Agapito et al., 2013; Buzova et al., 2021). The premise is that planning environments in an integrated fashion can contribute to accruing perceived value and adding meaning to the encounter between visitors, places and communities. The designing of relevant external stimuli, such as sensory inputs, both directly and virtually, can contribute to some extent to shaping specific emotional responses (taking into consideration individuals' goals and motivations) and prompt perceived authentic experiences and sustainable behaviours towards destinations by focusing on local identities and resources (Agapito, 2020; Huang & Lau, 2020; Kastenzholz et al., 2020; Santos et al., 2022).

Designing accessible experiences means enabling inclusive participation, allowing all people to engage in tourism-related environments. Indeed, accessible tourism involves the collaboration between stakeholders aiding individuals with "access requirements, including mobility, vision, hearing and cognitive dimensions of access, to function independently and with equity and dignity" (Darcy & Dickson, 2009, p.43).

The use of multiple sensory stimuli (e.g., colours, shapes, signs, textures, scents, sounds, flavours), both corporeal or virtual, are part of the experiencescape, i.e., the surrounding environment where experiences emerge (Agapito, 2020). In fact, the term *sensescapes*, carved in human geography, supports the notion that in addition to landscapes, with primarily ocular connotations, other senses can be specially ordered or place related (Rodaway, 1994; Urry, 2002). Different experience scapes (holistic scapes that compose the surrounding environment) can impact the tourist experience by making it more positive and accessible, resulting in favourable/unfavourable outcomes for individuals, tourism companies, and destinations (Chen et al., 2020; Lin et al., 2022). This idea is aligned with the rationale of universal design (i.e., design for all people regardless their abilities or disabilities) and environmental psychology theories showing that specific stimuli impact individuals (e.g., Stimuli-Organism-Response model). These effects can produce positive and negative responses (Tasci & Pizam, 2020).

Physical and online environments can be optimised with the aid of technology in the process of managing the tourist experience more responsibly and compellingly (Agapito, 2020; Agapito et al., 2013; Lauría, 2016). A systematic review of the senses in tourism design showed that research opportunities are mostly related to

sustainability and technology (Agapito, 2020). ICTs can be connected with environmental design and sustainably enhance the experience with attractions and destinations (Lam et al., 2020; Lin et al., 2020; Tussyadiah et al., 2018).

2.5) TECHNOLOGY AND SMART DESTINATIONS

The term smart is used to signify resource optimisation using advanced technologies and the interconnection between different technologies and artificial intelligence. This concept has been applied to places (e.g., smart tourism destinations, smart cities) and optimising resource production. The smart approach to destinations reflects the emerging nature of the places that apply ICTs and knowledge to improve the community's quality of life as well as the visitor experience (Ivars-Baidal et al., 2019; Gretzel et al., 2015; Lata et al., 2022). This process can be developed by aligning the ideas of participation, collaboration and innovation. Indeed, Vargas-Sánchez (2016) advocates that a smart tourism destination is related to the idea of a shared vision integrating technologies.

Accordingly, a recent strand in tourism research explores the potential of VR, AR, apps for smartphones, new media, the internet of things, big data, QR Codes, and the connection to GSP and GIS systems, for example, in managing destination resources (Benckendorff et al., 2019; Ivars-Baidal et al., 2019; Guttentag, 2010; Lin et al., 2020).

The term "virtual reality" (VR) refers to 3D computer-generated landscapes that one may explore and interact with, simulating one or more of the user's five senses in real time. AR can enhance this virtual environment by projecting computer-generated images onto a real-world view (Guttentag, 2010), in loco or remotely, using QR codes and smartphone apps. These tools can encourage visitors to learn about and travel to specific places slower and more immersively.

VR allows for simulating environments and thus facilitates a visiting experience that can have an impact on tourists' imagination, emotions, memories, attitudes and behaviours (Alyahya & McLean, 2022; Burdea & Coiffet, 2003; Guttentag, 2010; Lin et al., 2020; Tussyadiah et al., 2018). Therefore, this technology can be utilised as an instrument in the context of sustainable management of local resources (Agapito et al., 2020; Lin et al., 2020). In marketing, the literature highlights the potential of VR to facilitate the tourist experience through sensory information that allows

participants to customise their experience, immerse themselves in reality (places and events), and adapt the process of interpretation to specific requirements. This approach makes the experience accessible to all (Lam et al., 2020). Alyahya and McLean (2022) found that different levels of sensory cues in VR experiences affect not only mental imagery, but also the sense of presence in the experience, attitudes and intentions of revisiting the destination. In their research on whether and how VR influences potential visitors' behavioural intentions regarding a heritage city, Lin et al. (2020) uncovered that engaging visitors through VR stimulated the desire to engage in slower visits to destinations (Lin et al., 2020, p. 8).

The smart use of technology is apparent. On the one hand, virtual and augmented reality technologies allow greater interactivity, opportunities for sensory immersion, heritage preservation, and accessibility (Bec et al., 2019). On the other hand, the Slow Cities movement encourages the use of technology-oriented (<https://www.cittaslow.org/content/philosophy>).

3. PROPOSING A THEORETICAL FRAMEWORK

3.1) *STUDIES INTEGRATING SLOW TOURISM, SENSORY EXPERIENCES AND SMART DESTINATIONS*

Although the link between the rationale of ST, smart technologies and sensory-informed experiences has been little explored, some studies highlight the potential of this relationship in the design of accessible and sustainable tourism experiences (e.g., Agapito, 2020; Coca-Stefaniak, 2020; Conway & Timms, 2010; Lam et al., 2020; Lin et al., 2020; Sambhanthan & Good, 2014; Tan et al., 2020).

Conway and Timms (2010) stress the democratic role of ICTs even in remote places with the participation of local communities. The authors state that information technology networking and website development allow a centralised promotion of local activities following the rationale of ST that can boost the overall collective identity. This process contributes to the design of distinctive community-based alternative tourism offerings (based on distinct stimuli) and participatory slow-based experiences. These alternative activities to the sun and beach offerings encompass

sports tourism, heritage tourism, agrotourism and ecotourism events, which can complement local food and community events based on local culture and heritage. As prototypes of this approach, the authors probe several case examples, such as a) activities developed in Treasure Beach in Jamaica, b) ST based on nature in central Barbados and Trinidad and Tobago, and c) activities conducted in the Grenadines and other small islands in the Caribbean. This multi-stakeholder approach is deemed sustainable, considering it tackles environmental, socio-cultural, participatory and inclusiveness aspects.

Sambhanthan and Good (2014) propose a virtual community approach focusing on tourism destinations. The system encourages all to enjoy the travelling experience (both at the pre-purchase and consumption stages), including senior individuals and visitors with panic disorders and mobility-related disabilities. The study explores several case examples in sectors ranging from education, nursing, health and business. In so doing, it argues that this approach can contribute to destination competitiveness. Considering the interactive nature of VR, it can be a powerful context for innovation and collaboration. The authors highlight the visual and auditory forms of stimulation that can engage visitors and impact favourable behaviours towards destinations.

Coca-Stefaniak (2020) proposes to rethink the "smartness" of urban destinations by focusing on approaches such as ST and tackling social challenges experienced by global tourism cities. Specifically, the author highlights the importance of inequalities between host communities and visitors, wellness, resilience and mental health. A holistic approach focused on the smart use of technology linked to the rationale of ST activities can result in more people-centred and sustainable cooperative strategies for tourism destinations. This perspective allows for the optimisation of local stimuli uniqueness aiming at sustainable development and innovation.

Lin et al. (2020) conducted a study to investigate how and why VR can work effectively to promote sustainable tourism practices in a heritage context. The researchers found that VR can significantly affect tourists' intentions to engage in ST in an ancient city and the tourists' nostalgic feelings about the destination. Aside from being motivated by the advantages of slower travel, visitors may be attracted by appealing settings, including accessibility, design and sensory stimulations (Lin,

2018). Therefore, the surrounding environment (built and natural-based) plays a central role in facilitating tourists' co-creation and experiences, which impacts the intention to engage intentionally in slow leisure (Lin et al., 2020).

Tan et al. (2020) probe how communication factors, such as multi-sensory media, influence individuals' mindfulness at a heritage site. The researchers explore how new technology displays can be used to enhance visitors' mindfulness states at leisure and tourism sites (e.g., heritage attractions), i.e., how it contributes to boosting visitors' attention and full appreciation of sensory-informed details at a slow pace. This process can result in better heritage conservation and promote sustainability and perceived well-being (Bec et al., 2019). In this context, Martins et al. (2017) proposed a multi-sensory virtual experience model for thematic tourism focused on wine tourism by merging all elements into a single technological platform based on the conventional five human senses. Indeed, gastronomy-based activities (local food and beverage) have been highlighted as vital in ST approaches. In fact, Santos et al. (2022) propose a global wine tourism system based on a holistic, sustainable and inclusive approach. The idea is to integrate distinct sensory aspects of local-based wine activities and technology in the planning and to manage accessible tourism experiences. Wen and Leung (2021) also stress the influence of offline and online embodiment in the process of designing immersive and engaging wine tourism experiences. Accordingly, Flávia et al. (2021) found that pleasant scents in VR experiences enhance sensory states as long there is congruence in integrating sensory stimuli in digital experiences, permitting an imagery accessibility approach.

Lam et al. (2020) explore insights into the contributions of technology and sensory elements to sustainable and accessible tourism. This approach focuses on solutions that can be customised in destination experience design for visitors with disabilities, such as visual impairment. Huang and Lau (2020) probe the perspectives of individuals with visual impairment towards tourism and how smart advanced technology centred on gamification features can enhance their destination experiences. The perspective of accessibility for all stakeholders through technology (e.g., VR, AR, mobile apps) optimises sensory aspects of local resources, and aids management focused on preservation and conservation (Caciora et al., 2021). Although these studies are not on slow research, they are aligned with the rationale

of designing sustainable and accessible experiences based on unique sensory aspects related to local resources. This process encourages visitors to learn about local resources in situ or remotely at their rhythm. It provides space to appreciate destination resources at different stages at a slower pace.

The systematic review conducted by Agapito (2020) around the senses and tourism design shows that future research directions on this topic are related to designing enhanced tourism experiences that are deemed sustainable. Research should also encompass the perspectives of multiple stakeholders (e.g., public and private sector, local community, tourists). The use of participatory methodologies, such as focus groups, is encouraged. Technology, especially VR, is depicted as a vital aspect in this area of research since it contributes to more accessible tourism experiences for all, including individuals with disabilities. At the same time, it acts as a means to optimise the distinctive qualities of local resources. In this light, ST combines the characteristics to address this call for future research and practice.

In summary, the above studies advocate the rationale of ST is centred on local identity, distinctive resources and sense of place, which are tangibilised by sensory stimuli. Furthermore, ST should consider different stakeholders' crucial roles, needs, and requirements in researching and designing sustainable tourism experiences. A smart approach using technology (VR, AR, online platforms, mobile apps, QR codes) allows the operationalisation, enhancement of stimuli, customisation, and making experiences more accessible for all.

3.2) INTEGRATING SLOW TOURISM, SENSORY EXPERIENCES AND SMART DESTINATIONS THROUGH SOR MODEL

The studies discussed in the previous sections suggest that the rationale of the Stimuli-Organism-Response (SOR) theory (Mehrabian & Russell, 1974) can be used to integrate slow tourism, sensory experience and smart destinations into a framework to be implemented in destinations. This theory was developed within Environmental Psychology. The model poses that stimuli (S) in the environment (e.g. sensory stimuli, technology) impact the organism (O), such as the perception of the

tourist experience itself (e.g., positive vs negative; accessible vs non-accessible), which in turn affects individuals' responses (R). These responses can be related to intentions to revisit, time spent at the destination, behaviours (e.g., environmentally responsible), attitudes towards the hosts, and a sense of well-being (Tasci & Pizam, 2020). Experiencescape theory, which focuses on external stimuli in tourism destinations and follows a holistic approach (e.g., integrated multi-sensory stimuli), is aligned with the SOR rationale (Chen et al., 2020).

3.3) *FRAMEWORK FOR DESIGNING ACCESSIBLE TOURISM EXPERIENCES: A SLOW, SENSORY AND SMART APPROACH*

This theoretical research adopted a critical literature review, which allowed the authors to synthesise existing literature and propose a framework for designing accessible tourism experiences by integrating slow, sensory and smart approaches. A critical review goes beyond mere description and includes some innovation. Typically, this process results "in a hypothesis or a model" to be further evaluated in future research (Grant & Booth, 2009: 93). After the critical literature review, five senior academic experts on accessible tourism experiences and sensory experiences were consulted to gather exploratory feedback on the rationale of the proposed framework. In so doing, each expert was shown a preliminary draft of the manuscript individually. Further clarification was added to the framework based on the comments provided by the five academics. This procedure permits adding robustness to theoretical research (Wen et al., 2022). In this light, a reflective perspective is present in this research (Quintela et al., 2016).

Figure 3 shows the integration of multi-sensory and smart approaches to design more accessible and sustainable tourism experiences in the context of slow tourism. A six-step process is recommended to implement this framework in destinations from a research and practical perspective.

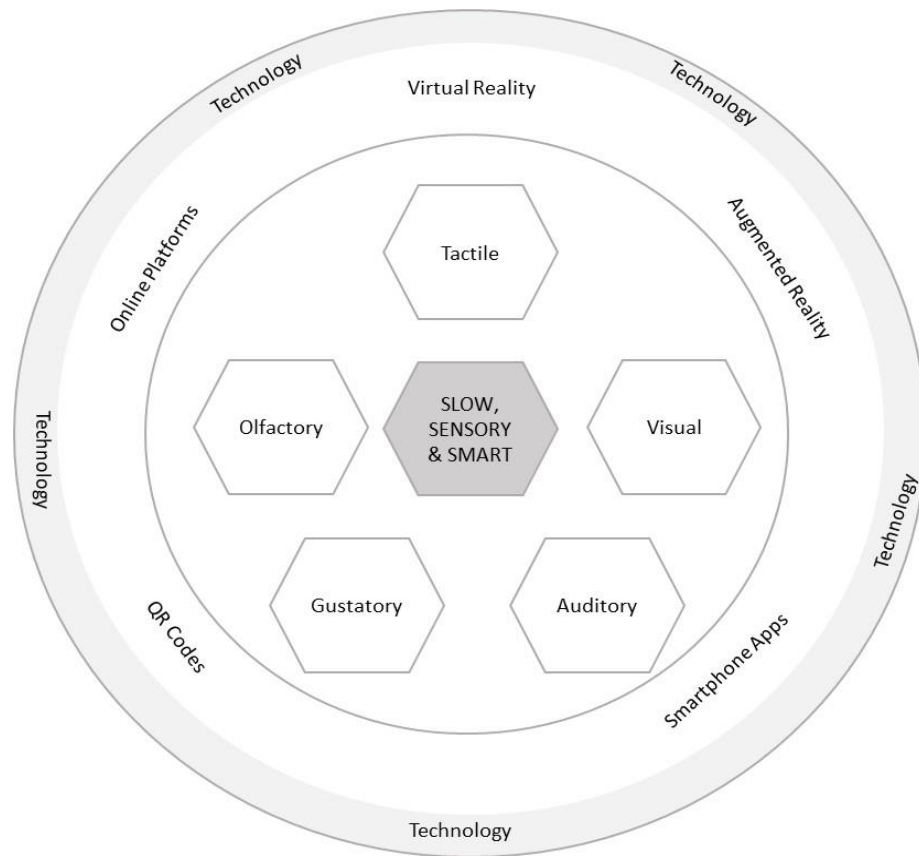


Figure 3. Slow, sensory and smart: A framework

FIRST STEP: Group sessions (e.g., focus group, nominal group technique) with relevant stakeholders (e.g., local organisations, residents, tourists). This qualitative methodological procedure (Delbecq et al., 1975) aims to capture the stimuli by each sensory modality (visual, auditory, olfactory, gustatory and tactile). This process considers the stimuli that different stakeholders believe characterise the destination better, why the stimuli are important for local identity, where they are located, and how people can slowly interact with them (Conway & Timms, 2010). Specifically, the nominal group technique allows the moderator to ask participants specific questions and to prioritise the contributions. This technique has advantages over the focus group by preventing a single person's dominating the discussion. The process encourages all group members to participate, resulting in prioritised solutions or recommendations representing the group's preferences (Delbecq et al., 1975).

SECOND STEP: Validation of stimuli by experts. Following the identification of stimuli per each sensory modality (visual, auditory, olfactory, gustatory and tactile), these should be validated and ranked using instruments such as the Delphi method

(Ivars-Baidal et al., 2019; Okoli & Pawlowski, 2004). Panels can be composed of national and international academics, relevant regional organisations and tourism authorities. The main goal of this quantitative-based approach (questionnaire) is to obtain a consensus from panels of experts regarding the stimuli to be highlighted in slow tourism strategies. The Delphi method should be performed in three main steps: a) the design and pre-testing of the questionnaire, b) the selection of the experts and sending of the questionnaires, and c) the analysis of results. Using an online instrument increases the opportunities to include international experts in the panel.

THIRD STEP: Contents collection and organisation through the identification and consultation of secondary sources (e.g., guides with an inventory of local resources, books, videos, photos, and local repositories) and primary data (e.g., collecting information on sensory-based stimuli through storytelling from locals' perspectives, developing videos and recordings (Bulkens et al., 2015). The storytelling approach (Moscardo, 2020), focused on locals' reports and based on specific local stimuli (e.g., local songs and myths), can be used as unique digital content in designing slow tourism experiences.

FOURTH STEP: Geo-referencing validated stimuli. GIS-geographical information system databases and maps (Agapito, 2020; Guttentag, 2010) should be created based on stimuli validated in previous stages. This process is useful for identifying areas where specific stimuli divided by sensory modalities are predominant (e.g., smells). Mapping this sensory information is key to designing slow-based tourist tours (Chan et al., 2022) with specific sensory requirements (e.g., visual or auditory impairment).

FIFTH STEP: Design and implementation of an online platform. An interactive online platform should be developed based on the stimuli validated and mapped through GIS (Agapito, 2020; Guttentag, 2010), including content collected in previous stages. This platform allows access for all stakeholders, acts as a repository of contents, and can be linked to a mobile app.

SIXTH STEP: A smartphone app can use virtual and augmented environments and be linked to the online platform. Stakeholders can utilise the app to provide tangible and intangible data related to sensory stimuli on heritage, nature, stories, etc. The app can be downloaded to smartphones and, through AR information, be

accessed in specific areas in the destination, for example, via QR codes (Agapito, 2020; Ivars-Baidal et al., 2019). The online platform and mobile app can be used locally and remotely. They should be interactive to permit users to customise their experience, suggest stimuli and respond to surveys that can be cross-checked with other data collection instruments.

This six-step proposal to implement the framework combining multi-sensory, smart, and slow approaches aims to design more accessible and sustainable tourism experiences in destinations. According to the literature, the proposed process is participatory, addresses multiple stakeholders, is interactive, connects different technologies, is based on local resources, and permits customisation.

4. DISCUSSION AND CONCLUSIONS

The contribution of this research relies on articulating three research areas – slow tourism, multi-sensory tourism experiences design and smart destination – by using the rationale of SOR (Stimuli-Organism-Response) and experiencescape theories. As a result, the literature is embedded into an integrative framework for designing accessible tourism experiences. The framework takes into account the rationale that a managerial approach to ST should focus on local identity, unique resources and a sense of place (Jung et al., 2014; Mavrić et al., 2020; Serdane et al., 2020).

This holistic approach addresses a specific research gap related to the optimisation of multi-sensory stimuli in designing more accessible and sustainable tourism experiences, considering the slow movement and the advance of technology (Agapito, 2020; Manthiou et al., 2022). Indeed, the focus of research on slow tourism has been on the absence of technology and not on how technology can enhance the experience for all without losing the rationale of slower pace activities. Since more tourists are using new technology, not only in general but in slow tourism contexts in particular (Lin et al., 2020), this theoretical approach can contribute to advancing the theory around tourism experience design.

This idea is in tune with the universal design concept. This concept has been limited to a small research strand on disability in tourism and less addressed in the study of tourism experiences management in general (Singh et al., 2021). Indeed, the idea of universal design focuses on using environmental stimuli to improve the

experience regardless of individuals' ability or disability (Darcy & Dickson, 2009). The emphasis is on enhanced experiences for all. Furthermore, experiencescape theories (adopted recently in tourism experiences design research) are embedded in knowledge derived from disciplines such as environmental psychology, human geography and consumer behaviour. This knowledge supports a managerial approach to tourism experiences focusing on the external environment (Chen et al., 2020), i.e., understanding how external stimuli impact the way experiences are perceived and result in positive or negative responses from individuals (e.g., tourists, residents, local businesses). Therefore, sensory stimuli within experiencescapes are a medium suitable for analysing various tourism experience contexts, such as slow tourism. In so doing, the proposed theoretical framework is informed by the SOR theory in environmental psychology, which has been extensively used in consumption contexts (Tasci & Pizam, 2020). The theory advocates the stimuli in the surroundings have an impact on the individuals' organism, which in turn results in approach/avoidance responses. Our rationale is that the process of designing and managing the experiencescape in slow tourism contexts through distinct sensory stimuli and smart technologies can result in enhanced tourism experiences for stakeholders and destinations.

Considering the focus on local multi-sensory stimuli and a participatory approach, the proposed framework has practical implications for destinations and tourism organisations aiming to embark on a sustainable approach to tourism. In this light, regarding managerial implications, the process of implementing the proposed approach should be participatory, involving diverse local stakeholders (Darcy & Dickson, 2009) through participatory-based methodologies (e.g. focus groups and Delphi instruments). The main idea is to tangibilise and customise multi-sensory aspects of destination resources (e.g., endemic fauna and flora, unique scents, local textures, and local songs and stories) via smart technologies (integration of online platforms, VR, AR, and smartphones) (Agapito, 2020; Lam et al., 2020). This approach can enhance the pleasure of discovery and the process of learning for visitors. This process is developed at a slow pace, which characterises the ST approach.

Also, this approach provides opportunities to blend physical and digital elements (virtual and augmented reality) and optimise the experience on-site and off-site,

which can contribute to natural and cultural heritage preservation (Bec et al., 2019; Lin et al., 2020). Sensory-based geographical mapping permits the development of slow-based tours addressed to tourists with specific sensory requirements (e.g. visual, auditory) that can be personalised through a mobile app (Chan et al., 2020). The connection to an online platform acting as a repository of multi-sensory content provides opportunities to taste the destination before travel and allows all stakeholders to contribute to the process of populating the platform with sensory-based information.

The degree of depth in implementing the proposed framework depends on each destination's approach. This instrument can be used by destinations aiming to position themselves as a slow destination (e.g., Latvia, see Serdane et al., 2020) or to include the rationale of ST in specific settings and activities in a complementary manner (e.g., Caribbean, see Conway et al., 2010). Destinations with diverse positionings, such as sun and beach, can use the latter approach to diversify tourism offers sustainably. Furthermore, this framework can be utilised by destinations already included in the list of slow cities network, contributing to operationalising strategies (<https://www.cittaslow.org>).

The approach, which is informed by the proposed framework, gives rise to a number of promising research avenues that deserve further attention. Studies probing the impacts of technological-based instruments on visitors' experiences and outcomes combining the rationale of slow, sensory and smart, including visitors with diverse disabilities (e.g., sensory, physical), are called for (Lam et al., 2020; Santos et al., 2022). A multi-study experimental approach can assess the effects of multi-sensory information through technology (Alyahya & Mclean, 2022). The extent to which the implementation of such frameworks is perceived as accessible is a relevant research area.

The effective impact of this approach on sustainability, such as environmentally responsible behaviours towards destinations, combining the rationale of slow, sensory and smart, is also an important research avenue (Agapito, 2020). Likewise, the extent to which this approach can aid perceived well-being (Agapito, 2023) and tourists' mindfulness is relevant for future studies (Tan et al., 2020).

This research is not free from limitations. Research tackling multiple stakeholders should be used in the future to develop further and validate the proposed theoretical

framework since the present study used a critical approach to literature and consultation with academic experts only. Furthermore, the integration of the proposed approach in the context of slow tourism research needs to be empirically tested by considering specific governance and marketing destination strategies across multiple settings (Lin et al., 2020).

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