

To cite this book chapter, please use the following format:

Coca-Stefaniak, J.A. and Seisdedos, G. (2020), “Smart urban tourism destinations at a crossroads – being ‘smart’ and urban are no longer enough”, In: A.M. Morrison and J.A. Coca-Stefaniak (eds.), *The Routledge Handbook of Tourism Cities*, London: Routledge

Smart urban tourism destinations at a crossroads – being ‘smart’ and urban are no longer enough

J. Andres Coca-Stefaniak^a and Gildo Seisdedos^b

^a University of Greenwich, Department of Marketing, Events and Tourism, Faculty of Business, London SE10 9LS, United Kingdom. Email: a.coca-stefaniak@gre.ac.uk

^b IE Business School, Department of Marketing, Maria de Molina 12 5, 28105 Madrid, Spain. Email: Gildo.Seisdedos@ie.edu

Introduction

Concepts such as *smart* or *smartness* have evolved over time from rather narrow technological interpretations in the form of mobile devices to more nuanced applications involving geographical locations (e.g. smart cities, smart tourism destinations). As a result of this, *smart places* have arisen partly as a result of the widening impact of new and disruptive technologies on the spaces we live in, including cities, regions and countries (Hedlund, 2012;

Zygiaris, 2013; Vanolo, 2014). Urban tourism destinations are not immune to these global trends, particularly as regards their strategic positioning (Buhalis and Amaranggana, 2014) to compete for larger and/or higher value share of the tourism market, regardless of whether their priority is leisure or business. In line with this, the use of Information and Communication Technologies (ICTs) has developed substantially over the last two decades to deliver new experiences for tourists and visitors, while supporting wider automatization processes (Gretzel, 2011), which remain a common challenge for urban managers and tourism destination managers alike (Hughes and Moscardo, 2019). Key channels for ICTs today include social networks, big data analysis, artificial intelligence, the Internet of Things (Vicini *et al.*, 2012), sensor equipment and other monitoring and data processing systems (Haubensak, 2011).

This chapter will review some of the key parallels between the concepts of smart cities and smart tourism destinations. This review will also cast a critical perspective on the *smart* concept, which has been traditionally dominated by technology-based approaches, even if a new generation of smart initiatives is beginning to emerge with a more human-centred focus. Evidence of this new trend as well as the widening of the smart tourism destination concept to neighbouring regions of established smart tourism cities will be discussed with reference to examples from practice in Europe and China. In line with these developments and given the knowledge gap that appears to exist in scholarly research concerning this urban-regional interphase with regards to smart cities and smart tourism destinations, a new typology is proposed for smart tourism destinations that encompasses tourism cities as well as their wider region.

To conclude, this chapter argues that smart tourism destinations are at a strategic crossroads in their development, which needs to move beyond traditionally favoured technology-focused initiatives towards a new generation of smart tourism destinations that balance often conflicting global-local trends. These include, among others, overtourism, climate change, terrorism, gentrification, growing demands from local residents for more liveable cities, declining city centre shopping due to the digital retail revolution, and the search for authentic transformational experiences by new generations of tourists and visitors. It is argued that visionary tourism cities will adopt a new strategic positioning that revolves around urban sustainability as a holistic paradigm - urban living labs being a good example of this -, which will lead to a new generation of smart tourism destinations – the sustainable smart tourism destination. A conceptual framework is offered for further research and practice in this field. This framework combines elements from existing sustainability and tourism frameworks by adopting a systems-based approach to the management of urban tourism destinations, with elements of smart innovation used as catalysts for tackling a wide range of factors affecting the sustainability of tourism destinations in a sphere termed the “acceptable change domain”, which captures the global-local tensions alluded to earlier in the context of tourism destinations at different stages of their life cycle.

The *smart* revolution

Smart cities and smart tourism destinations cannot be viewed in isolation from the wider concept of ‘smartness’ and the - often digital - ‘smart’ revolution affecting every day aspects in most industrialised countries – from urban infrastructure management and the ways in which people have come to interact with others to the security of financial transactions and

key governance aspects in political processes such as general elections. So, is there such a thing as ‘smartness’? In many ways, smartness, like many related concepts, remains an elusive notion today as it is often domain dependent, referring to anything from smart TV sets and smart cars to smart systems and devices (Alter, 2019), urban energy management (Battarra *et al.*, 2016), the environmental sustainability of cities (Balducci and Ferrara, 2018) or cross-agency information-sharing for better decision-making (Gil-Garcia *et al.*, 2019), or urban governance (Gil-Garcia *et al.*, 2016), among others. Regardless, in essence, the concept has often been used to refer to the impact that information and communication technologies (ICTs) have had on society and the economy (see, for instance, Dameri, 2017), with ICTs often used as an umbrella term to denote a wide array of technologies and advances in communication and connectivity (see, for instance, Rutherford, 2011; or, for a recent tourism-focused review on this topic, see Ivars-Baidal *et al.*, 2019). The speed of innovation in this field, often referred to as ‘disruptive technologies’ - a term first coined by Bower and Christensen (1995) to denote technologies able to displace current incumbents due to their high level of innovation - has led some thinkers to claim that humanity is, in effect, facing a fourth industrial revolution (Schwab, 2017) exemplified by major advances in robotics, artificial intelligence, nanotechnology, quantum computing, biotechnology, the internet of things (IoT), the industrial internet of things (IIoT), decentralized consensus, fifth-generation wireless technologies (5G), 3D printing and fully autonomous vehicles (World Economic Forum, 2016), to mention but a few examples, and their huge impacts on the challenge of educating future generations (Peters, 2017).

This fourth industrial revolution and particularly the ICTs acting as facilitators and catalysts for change, carries major implications for urban management and liveability in towns and cities around the globe. These range from enhanced digital monitoring using sensors and

external data sources, to improved control systems with embedded software, real-time optimisation of processes (e.g. crowd flow and management) using advanced algorithms, and even autonomous self-diagnosing systems able to combine tracking, monitoring and optimisation (Porter and Happelman, 2018). However, ultimately, perhaps one of the most widespread albeit contested manifestations (Greenfield, 2013) of this fourth industrial revolution in the context of urban environments is the emergence of the concept of the smart city. This concept was first coined in the United States by IBM and CISCO several decades ago. Since then, smart cities have consolidated largely as a form of visioning for improving local economies, enhancing mobility, delivering environmental sustainability, improving quality of life in cities, and enabling better governance (e.g. Abella *et al.*, 2017; Angelidou, 2015; Caragliu *et al.*, 2011; Vanolo, 2014; Picon, 2015; Hajer and Dassen, 2014; Monitor Deloitte, 2015) and even living test beds for urban innovation (Sassen, 2011; Zygiaris, 2013) and engagement with visitors and residents (Molinillo *et al.*, 2019) even if the use of place branding and marketing techniques by smart cities and smart tourism destinations remain a major challenge (Coca-Stefaniak, 2019). In spite of this seemingly endless list of benefits smart cities have attracted criticism from scholars on historical and philosophical grounds as constructs serving primarily a financial elite (Curugullo, 2018) through a form of market triumphalism (Gibbs *et al.*, 2013) that promotes a standardising approach to the design of urban futures (Sadowski and Bendor, 2019) with arguably opaque approaches to urban planning and development (Kitchin, 2015; Kummitha and Crutzen, 2017). Other scholars (e.g. Hollands, 2008) have gone even further by denouncing the self-congratulatory labelling of smart cities in what amounts to little else than a revamped version of a preceding concept – the entrepreneurial city. All in all, smart cities and their strategic focus continue to evolve subject to all these forces and have even developed offshoots, such as smart tourism destinations. This is explored in more detail next.

From smart cities to smart tourism: exploring parallels

The development of smart city research in what remains a nascent - though rapidly growing - field of knowledge in academia has spanned now nearly three decades. Although there exist a number of systematic reviews of the literature on smart cities (Ramaprasad et al., 2017; Ruhlandt, 2018; Lytras and Visvizi, 2018; Ismagilova *et al.*, 2019), agreement on a single definition of the concept remains as elusive as the broadness of its remit. Cocchia (2014), for instance, carried out a review of the literature on smart cities and digital cities spanning 19 years from 1993 to 2012 and concluded that the smart city concept was associated in the literature with interpretations as diverse as wired city, virtual city, ubiquitous city, intelligent city, information city, digital city, smart community, knowledge city, learning city, sustainable and green city, among others. Crucially, this study also found an exponential growth in academic publications on smart cities between 1993 and 2012 with the most cited definitions of smart city during this period outlined below in Table 1.

Table 1. Definitions of smart city (Cocchia, 2014; Albino *et al.*, 2015; Al Nuaimi *et al.*, 2015; Meijer and Bolívar, 2016)

Focus	Definition	Source
Governance	“A city to be smart when investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise	Caragliu <i>et al.</i> (2011)

	management of natural resources, through participatory governance.”	
Technology	“Smart city is defined by IBM as the use of information and communication technology to sense, analyze and integrate the key information of core systems in running cities.”	IBM (2010)
	“Smart City is the product of Digital City combined with the Internet of Things.”	Su <i>et al.</i> (2011)
Environmental	“Smart City is a city in which it can combine technologies as diverse as water recycling, advanced energy grids and mobile communications in order to reduce environmental impact and to offer its citizens better lives.”	Setis-Eu (2012)
Human capital	“Smart community – a community which makes a conscious decision to aggressively deploy technology as a catalyst to solving its social and business needs – will undoubtedly focus on building its high-speed broadband infrastructures, but the real opportunity is in rebuilding and renewing a sense of place, and in the process a sense of civic pride. [...]Smart communities are not, at their core, exercises in the deployment and use of technology, but in the promotion of economic development, job growth, and an increased quality of life. In other words, technological propagation of smart communities isn’t an end in itself, but only a means to reinventing cities for a new economy and society with clear and compelling community benefit.”	Eger (2009)
Innovation and learning	“(Smart) cities as territories with high capacity for learning and innovation, which is built-in the creativity of their population, their institutions of knowledge creation, and their digital infrastructure for communication and knowledge management.”	Komninos (2011)
	“Smart city as a high-tech intensive and advanced city that connects people, information and city elements using new technologies in order to create a sustainable, greener city, competitive and innovative commerce, and an increased life quality.”	Bakıcı <i>et al.</i> (2012)

Multidisciplinary	<p>“A smart city is understood as a certain intellectual ability that addresses several innovative socio-technical and socio-economic aspects of growth. These aspects lead to smart city conceptions as “green” referring to urban infrastructure for environment protection and reduction of CO₂ emission, “interconnected” related to revolution of broadband economy, “intelligent” declaring the capacity to produce added value information from the processing of city’s real-time data from sensors and activators, whereas the terms “innovating”, “knowledge” cities interchangeably refer to the city’s ability to raise innovation based on knowledgeable and creative human capital.”</p>	Zygiaris (2013)
-------------------	---	-----------------

Indeed, there is evidence to suggest that contemporary interpretations of the smart city concept are increasingly evolving beyond initial - somewhat simplistic - technology-centred and rather homogenising approaches (Alizadeh, 2017) towards a focus on improving the quality of life of residents and communities (e.g. Albino *et al.*, 2015), whilst building on their specific idiosyncrasies to enhance their competitiveness. For instance, this situation becomes apparent in the context of new smart cities built entirely following smart principles of urbanisation and urban management. The experience of Masdar, Songdo IBD and Skolkovo suggest specific patterns of place-making along the lines of *smart urban labs* (Sengers *et al.*, 2018) with a focus on attracting only highly skilled and talented residents through a wide range of taxation facilities and subsidies facilitating their relocation (Kolotouchkina and Seisedos, 2017) in a manner that echoes the creative class arguments of Richard Florida (Florida, 2006) and other scholars (see Thite, 2011) , even if the marketing and branding of smart tourism destinations on their own merits of *smartness* remain in their infancy (Molinillo *et al.*, 2019) and a rich vein for further research (Coca-Stefaniak, 2019).

Although a number of different conceptual frameworks exist to illustrate the smart city concept and synthesise its many definitions, Cohen's (2013) smart city wheel remains arguably an early attempt at acknowledging the holistic and interdisciplinary nature of this concept. This framework identifies six aspects of smartness in cities, namely smart governance (including issues of transparency of data and decision-making); smart environment (mainly related to energy use and the sustainable management of resources); smart mobility (positing a mixed-model approach to the use of transport, combining mass public transport with ICTs and the rental of e-bikes, for instance); smart economy (largely related to the implementation of ICTs in economic strategies); smart people (e.g. human capital); smart living (quality of life in terms of health, safety, cultural vibrancy and happiness) (Lim *et al.*, 2018). This framework has been largely adopted and adapted by the European Union, which classifies the new services offered by smart cities into categories such as smart environment, smart mobility, smart living, smart people, smart economy and smart governance (Manville *et al.*, 2014). Other smart city frameworks developed since appear to revolve around the same concepts, albeit with specific nuances in each case (for a review, see Govanda *et al.*, 2017), even if, more recently, some scholars (Ahvenniemi *et al.*, 2017) have started to advocate the use of the term "smart sustainable cities" so as to combine the generalised socio-economic sustainability focus of smart city frameworks with the more environmentally-skewed focus of sustainable city frameworks.

Against this backdrop of the far more established, if perhaps still somewhat fuzzy, concept of smart cities (or even smart sustainable cities), a parallel concept has started to emerge in tourism – the smart tourism destination. Professor Dimitrios Buhalis is arguably the forefather of this concept and first acknowledged its roots in the field of smart cities (Buhalis,

2000). Since then, smart tourism destinations have been interpreted in terms of their focus on the use of ICTs to enhance tourism processes (Wang *et al.*, 2013), using technology to address tourists’ personal needs (Huang, 2012) and, more recently, enhancing their experiences (Guo *et al.*, 2014; Zhu *et al.*, 2014; Buhalis and Amaranggana, 2015). It is this latter point, the emphasis of smart tourism destinations on the provision of experiences for visitors whilst attaining quality of life for residents that differentiates them from being merely smart cities, as illustrated in Table 2. This point was later succinctly argued by Boes *et al.* (2016), who also pioneered the first conceptual framework specific to smart tourism destinations using an ecosystem approach, even if part of the framework, namely its *smart innovations* element, is distinctively anchored in much earlier work on smart cities by Giffinger *et al.* (2007), which posited the relevance of factors such as smart mobility, smart government, smart people, smart economy, smart living and smart environment in this context. Inevitably, Cohen’s (2013) smart city wheel framework, discussed earlier, also bears many resemblances to the work by Giffinger *et al.* (2007).

Table 2. Smart tourism destination definitions (adapted from Koo *et al.*, 2016)

Definitions of Smart Tourism Destinations	Source
“Places utilizing the available technological tools and techniques to enable demand and supply to co-create value, pleasure, and experiences for the tourist and wealth, profit, and benefits for the organizations and the destination.”	Boes <i>et al.</i> (2015)
“Bringing smartness into tourism destinations meaning that	Buhalis and

destinations need to interconnect multiple stakeholders through a dynamic platform mediate by ICT in order to support prompt information exchange regarding tourism activities through machine-to-machine learning algorithm which could enhance their decision making process.”	Amaranggana (2013)
“A tourism destination is said to be smart when it makes intensive use of the technological infrastructure provided by the smart city in order to: (1) enhance the tourism experience of visitors by personalizing and making them aware of both local and tourism services and products available to them at the destination and (2) by empowering destination management organizations, local institutions and tourism companies to make their decisions and take actions based upon the data produced in within the destination, gathered, managed and processed by means of the technology infrastructure.”	Lamsfus <i>et al.</i> (2015)
“An innovative tourist destination, built on an infrastructure of state-of-the-art technology guaranteeing the sustainable development of tourist areas, accessible to everyone, which facilitates the visitor’s interaction with and integration into his or her surroundings, increases the quality of the experience at the destination, and improves residents’ quality of life.”	Lopez de Avila (2015)
“A tourism system that takes advantage of smart technology in creating, managing and delivering intelligent touristic services/experiences and is characterised by intensive information sharing and value co-creation.”	Gretzel <i>et al.</i> (2015)

All in all, whilst further studies continue to explore the parallels between smart cities and smart tourism destinations (see, for instance, Jasrotia and Gangotia, 2018), a general consensus appears to be emerging among scholars on the importance for both concepts to be more human-centred (Giovannella and Rehm, 2015; Lara *et al.*, 2016; Johnson and Samakovlis, 2019) and even consider contested approaches such as degrowth (March, 2018) in order to achieve more sustainable futures.

The next section explores examples from practice in the management of smart tourism destinations and draws relevant parallels to the above discussion.

Implementing the smart tourism destination concept – examples from practice

One of the most recent international initiatives to recognise the achievements of tourism cities in the sphere of smart tourism is the recently launched (July 2019) European Union's European Capital of Smart Tourism initiative (EU, 2019). Contrary to the widely used smart cities wheel framework (Cohen, 2013), this award programme identifies four areas of excellence specific to smart tourism destinations: accessibility, digitalisation, sustainability, cultural heritage and creativity. Somewhat refreshingly, and in line with issues discussed in the previous section, this framework places a higher emphasis on the contribution of smart tourism destinations to sustainability, culture and creativity, possibly inspired partly by Hawkes' (2001) four pillar sustainability framework.

Accessibility is interpreted through a wide spectrum of issues ranging from physical accessibility for visitors with disabilities, to digital accessibility, city cards, or signage. Digitalisation acknowledges initiatives that facilitate the dissemination of information to specific target groups, collecting information for smarter management of tourism cities and granting physical and psychological accessibility through innovation. Sustainability, on the other hand, is grouped into three groups of best practice categories. The first one focuses on how tourism cities combat climate change or adapt to it; the second one revolves around the preservation and enhancement of the natural environment; whilst the third one focuses on

initiatives tackling the seasonality of tourism and encouraging the spread of tourist flows away from major urban tourism cities and to surrounding areas within the region to alleviate pressure on resources and local communities in tourism cities. Finally, the smart management of cultural heritage and creativity in smart tourism destinations are encouraged by rewarding practices that revive traditions and cultural heritage sustainably, building capacity and reach through community infrastructures and using cultural heritage for new creative initiatives that support the wider strategy of smart tourism cities. Table 3 below outlines details of the 2019 winners for the European Capital of Smart Tourism initiative.

Table 3. European Capital of Smart Tourism 2019 winners (EU, 2019).

City	Summary of best practices
Helsinki (Finland)	<p>The city’s smart public transport system has enjoyed a rise in user satisfaction over the last two years. Additionally, an ‘Uber boat’ system is currently being considered with driverless buses being trialled on open streets. Helsinki has been ranked second at the Accessible City Awards in 2015. Also, multilingual ‘Helsinki Helpers’ are stationed at main attractions to offer assistance to visitors. Helsinki has plans in place (including 143 specific measures) to become carbon neutral by 2035. The Helsinki Road Map prevents overcrowding and supports local business as it guides tourists around the city, while 75% of hotel rooms are certified environmentally friendly. Helsinki is also increasing the share of cycling, walking, and electric cars and trains.</p> <p>Powered by its open approach to public data – available free for all since 2009 – Helsinki has become a hotbed of software innovation, including the ad-free MyHelsinki.fi website, featuring recommendations from local residents. Helsinki’s traditional saunas feature a wide array of environmentally-friendly options using sustainable wood and powered by water, solar heating and wind.</p>
Lyon (France)	<p>Lyon has won several accolades for accessibility, including the 2017 Access City Award. Visitors with disabilities and reduced mobility can move around the city with complete autonomy, taking advantage of a</p>

	<p>completely adapted transport network and smart signage. Lyon's museums offer adapted tours - those with hearing impairments are allowed to touch works of art - and many restaurants provide speaking menus. In 2019, 40,000 visitors to the city experienced the benefits of the Lyon City Card, which provides users with various discounts, free public transport, and entrance to 23 museums and other attractions. In the future, visitors will be able to take advantage of the ONLYLYON Experience, receiving live geo-located tourist information direct to their smartphones to reduce congestion.</p> <p>Lyon-Saint-Exupery is one of 25 airports in just nine countries to be classed as carbon neutral, and sustainable development is one of the city's main priorities. An example of this is the 'Lyon, Ville Equitable et Durable' label which identifies companies, shops, producers and events encouraging responsible consumption. Artists taking part in the Festival of Lights, meanwhile, are rewarded for taking a sustainable approach to their installations.</p>
--	---

Other cities also received awards in European Smart Tourism 2019. These included Ljubljana (Slovenia) in the category of sustainability; Malaga (Spain) in the category of accessibility; Copenhagen (Denmark) in the category of digitalisation; Linz (Austria) in the category of cultural heritage and creativity.

There is, of course, a wide range of examples of smart tourism destinations beyond Europe. The diversity of their strategic priorities is illustrated in Figure 1, which provides a new typology of smart tourism destinations defined by two axes: horizontally, an urban context spectrum that ranges from typically urban destinations to non-urban forms that include regions, nations and other geographical constructs; and vertically a strategic focus spectrum that ranges from a focus mainly on local stakeholders to a strategic focus mainly on tourism. Every quadrant of this matrix represents a differing interpretation of smart places, with distinct policy needs. The urban context spectrum, for instance, is governed by population density to express how intensely urban a destination is, which has important implications for resource use. This typology also encompasses a growing phenomenon of integrated regional

approaches to tourism, which are often centred around one or more urban tourism destinations, which tend to act as hubs for the region with tourists often visiting other areas either as day-trippers or with longer-term stays. This non-urban (hybrid) category in our typology captures not only these wider - often inter-urban - regions but also tourism constructs (e.g. costa, riviera) and smaller attractions of a non-urban nature, such as natural parks and islands. Similarly, the typology offered here captures a much-neglected aspect of smart tourism destinations and smart cities: the rural sphere. Indeed, smart cities as a concept would appear to represent almost an oxymoron to rural locations. Yet, it is these more sparsely populated and often more isolated places that are increasingly most in need of innovative solutions (see, for instance, Bock (2016) for applications of social innovation to rural areas), which instead tend to be restricted almost exclusively to their more cosmopolitan neighbours. This rural-urban paradox became quite apparent when the European Union adopted the notion 'smart' in its new ten-year growth strategy, Europe 2020, stating that Europe should become a smart economy, though with little guidance - or even strategic vision - with regards to how this smart economy concept should apply to the same rural regions (Naldi *et al.*, 2015) that are now suffering from a phenomenon that could be described somewhat naïvely as "brain-drain" (Carr and Kefalas, 2009) or, perhaps more realistically, as "depopulation" (Viñas, 2019) due to the lure of better jobs and standard of living offered by cities. This becomes almost a paradox when, from a purely tourism-based perspective, it is these rural locations that remain the main (resigned?) curators of the very elements of authenticity that new generations of tourists crave (Sims, 2009; Jyotsna and Maurya, 2019). It seems, therefore, quite appropriate that a growing field of research and innovative policy-making in Europe is that of 'smart villages' (see, for instance, Visvizi and Lytras, 2018; and Lytras *et al.*, 2019, amongst other emerging research). This concept of smart villages is captured by our typology (Figure 1).

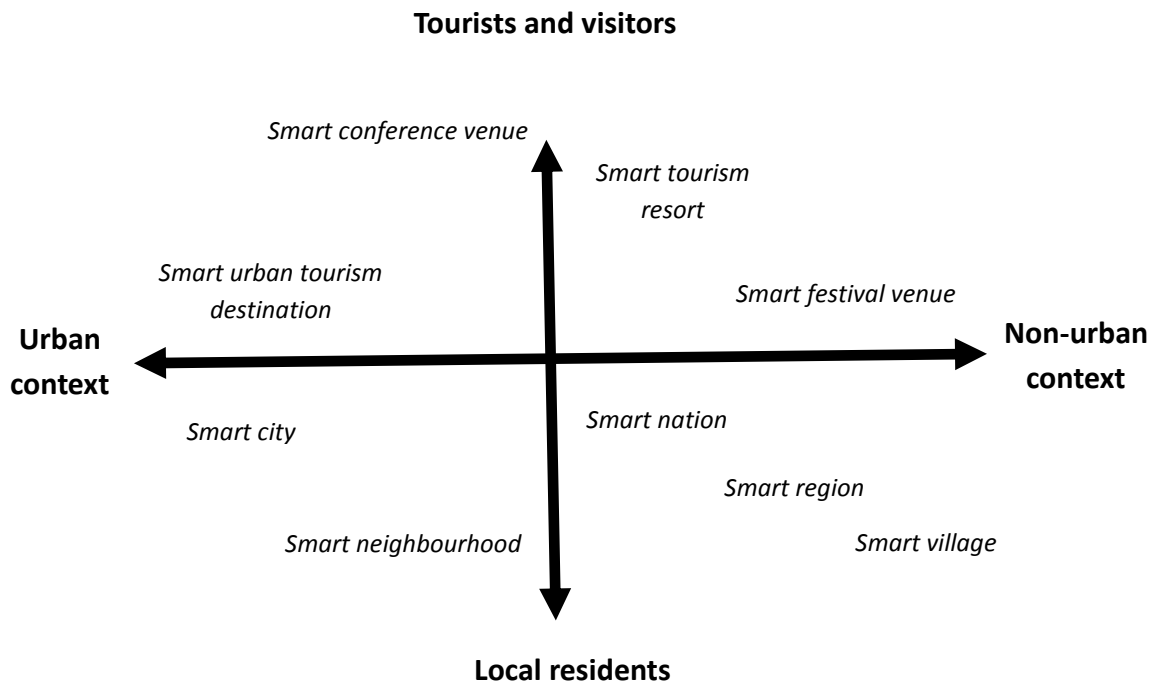


Figure 1. Smart place vs. smart tourism destination typology.

At the more urban end of the spectrum, Macao (China) is a good illustrative example for this typology as a global tourism city with 31 million visitors annually, which effectively amounts to forty-eight times the city's population. Given Macao's rather restricted geographical land area (30.3 km²), these large visitor numbers place a major strain on the city's resources and the environment with a detrimental impact on the wellbeing of its local residents. Macao is also the world's largest gambling destination (Shenga and Gub, 2018), with this sector delivering a gross revenue approximately seven times larger than that of Las Vegas in the

United States and representing over 45 per cent of the city's GDP. In order to deal with these major challenges to the city's resources, the Macao Government Tourist Office (MGTO) launched in March 2019 three "smart tourism" projects where cloud computing plays a vital role in delivering better services for visitors and residents alike as well as supporting the tourism sector. In collaboration with AliCloud of the Alibaba Group, the three smart tourism initiatives launched by the MGTO include a tourism data exchange platform, a visitor observation application, and a smart visitor flow application. The tourism data exchange platform represents the foundation of these smart initiatives and is hosted by the Government of Macao's cloud computing network capturing a variety of data related to tourism in the territory. On the other hand, the visitor observation app looks at basic attributes related to the behaviour of visitors, their preferences as well as their travel patterns. Lastly, the smart visitor flow app delivers predictions - four hours in advance - of the density of visitor flow in several tourist attractions on a 24-hour basis, seven days a week, making it easier to organise visitor itineraries. The smart visitor flow app currently covers twenty of the city's most visited tourism attractions, including several located in Macao's historic centre, which holds UNESCO World Heritage Site status.

At the non-urban end of the spectrum, on a regional level or perhaps rather a tourism construct level, the Smart Costa del Sol (Spain) is a good example of the challenges faced by tourism destinations that do not conform strictly to more orthodox geographical classifications of tourism destinations, where the boundaries between the influence of local residents (some of them often with different nationalities) and seasonal tourists are less clear cut in terms of the focus of policy-making and delivery of services. The Costa del Sol is neither a city nor a province or a region. Instead, it is formed by a heterogeneous group of villages around a key smart city and smart tourism destination for southern Spain: Malaga.

Malaga is the sixth largest city in Spain with a population in excess of 500,000 with smaller towns nearby such as Torremolinos, Benalmádena, Fuengirola, Mijas, Marbella, Estepona, Casares and Nerja, which are also important tourism destinations regionally. The Costa del Sol is home to a population of 1.5 million and hosts annually 12 million visitors with 26 million overnight stays and a combined income from tourism of 11.1 million euros (TyP Costa del Sol, 2017). In line with this, the “Smart Costa del Sol” project was launched as part of the first round of smart city proposals in the “A Way to Build Europe” initiative co-funded by the European Regional Development Fund (ERDF). This project involves a partnership of thirteen municipalities in the province of Málaga: Alhaurín de la Torre, Antequera, Benalmádena, Estepona, Fuengirola, Málaga, Marbella, Mijas, Nerja, Rincón de la Victoria, Ronda, Torremolinos and Vélez-Málaga, with the objective of developing more efficient and sustainable cities. The means to achieve this rely largely on a smarter management of existing resources in view of increasing the social and economic wellbeing of residents and visitors alike. Using a public-private partnership approach that includes IDOM and Wellness Telecom, these municipalities have teamed up to deliver a digital transformation that will inject ‘smartness’ to current tourism management processes and decision-making. The programme is structured into three major components, namely: a smart city platform that will connect various local initiatives and enable data sharing between municipalities; an open data portal that will publish project data in a way that residents and other organisations can access and understand; and a smart irrigation system that will monitor water consumption and manage the irrigation of parks and public spaces.

All in all, the smart place vs. smart tourism destination typology posited here aims to capture the heterogeneity of smart approaches to the management of places that often vary

considerably in size, resources, policy priorities and identity. More importantly, this typology has been designed to serve as a holistic framework for the comparison and transfer of knowledge, practice and on-going research in a field that remains somewhat disjointed. This fragmentation in current thinking may be largely due our focus on very specific issues such as smart tourism versus smart cities, smart urban transport versus smart hospitality or smart services for local residents versus smart trails for tourists. This would appear rather incongruent given the nascent consensus on a more integrated approach to smart solutions that merge the local with the global whilst delivering services such as transport (Papaix and Coca-Stefaniak, 2020) and signage that incorporate experiential elements that even allow for a momentary respite from the digital world to offer a ‘wise’ approach (beyond merely ‘smart’) to the development of tourism destinations and places in general (Hambleton, 2015; Carrera, 2016; Coca-Stefaniak *et al*, 2020). This will require difficult strategic compromises, which will be often linked to growing challenges related to the environmental, social and economic sustainability faced by smart tourism cities. This is discussed further below.

Future challenges for smart urban tourism cities

Following on from the above discussions, two issues are beginning to become rather apparent. On the one hand, smart urban tourism destinations can no longer adopt a city-centric approach to smartness. Instead, as smaller peripheral destinations begin to increasingly emerge as viable options to ‘decongest’ overcrowded global tourism cities and reduce the pressure on their resources, smart tourism initiatives will need to become more

regional in their approach and less focused specifically on the metropolises that have dominated this concept from its outset. This chapter has posited a typology for smart places and smart tourism destinations (see Figure 1), which may go some way to influence practice and future academic research in this field, particularly as a framework for integrating current knowledge and future research. Secondly, smart tourism destination initiatives promoted by the European Union and other funding bodies elsewhere in the world are increasingly beginning to focus on aspects of sustainability and sustainable urban management, including the development of smarter human capital. This is perhaps a factor that was initially somewhat overlooked by smart tourism destinations, which mirrored themselves largely in the - now almost obsolete - techno-centric approach of the first smart city pilots. Instead, a growing understanding of the need for cities and other tourism destinations to adapt to environmental changes by developing resilience strategies and, at the same time, providing leadership with regards to innovative urban management solutions often referred to as “urban living labs” (see Voytenko *et al.*, 2016 for an outline of future research in this field) will lead to a shift in policy making whereby sustainability will need to be at the heart of smart solutions for urban tourism destinations and their wider regions. In essence, whilst some smart urban tourism destinations will continue to revel in their techno-centric initiatives, the more forward-looking ones will pursue instead a new paradigm: the resilient smart tourism destination and/or the wise (beyond smart) tourism city (Coca-Stefaniak, 2020).

In line with this, tourism cities will increasingly see themselves as ecosystems of stakeholders and, by doing so, adopt a systems-based approach to their development (Morrison *et al.*, 2018; Bosak, 2019), the management of their resources and the wider environment. At the same time, they will look to capitalise on innovations rooted in the smart city paradigm (see Giffinger *et al.*, 2007) that can deliver positive impacts on the way these tourism cities are

managed (Boes *et al.*, 2015) as well as their longer-term governance processes (e.g. policy-development envelope). However, at the core of the tourism destination's ecosystem will remain the same attractors and resources common to all smart and non-smart (dumb?) tourism destinations (see Figure 2) that have traditionally contributed to their authenticity and, by default, their unique competitive positioning and socio-economic sustainability, as stipulated by Crouch and Ritchie (1999) in their Calgary Model.

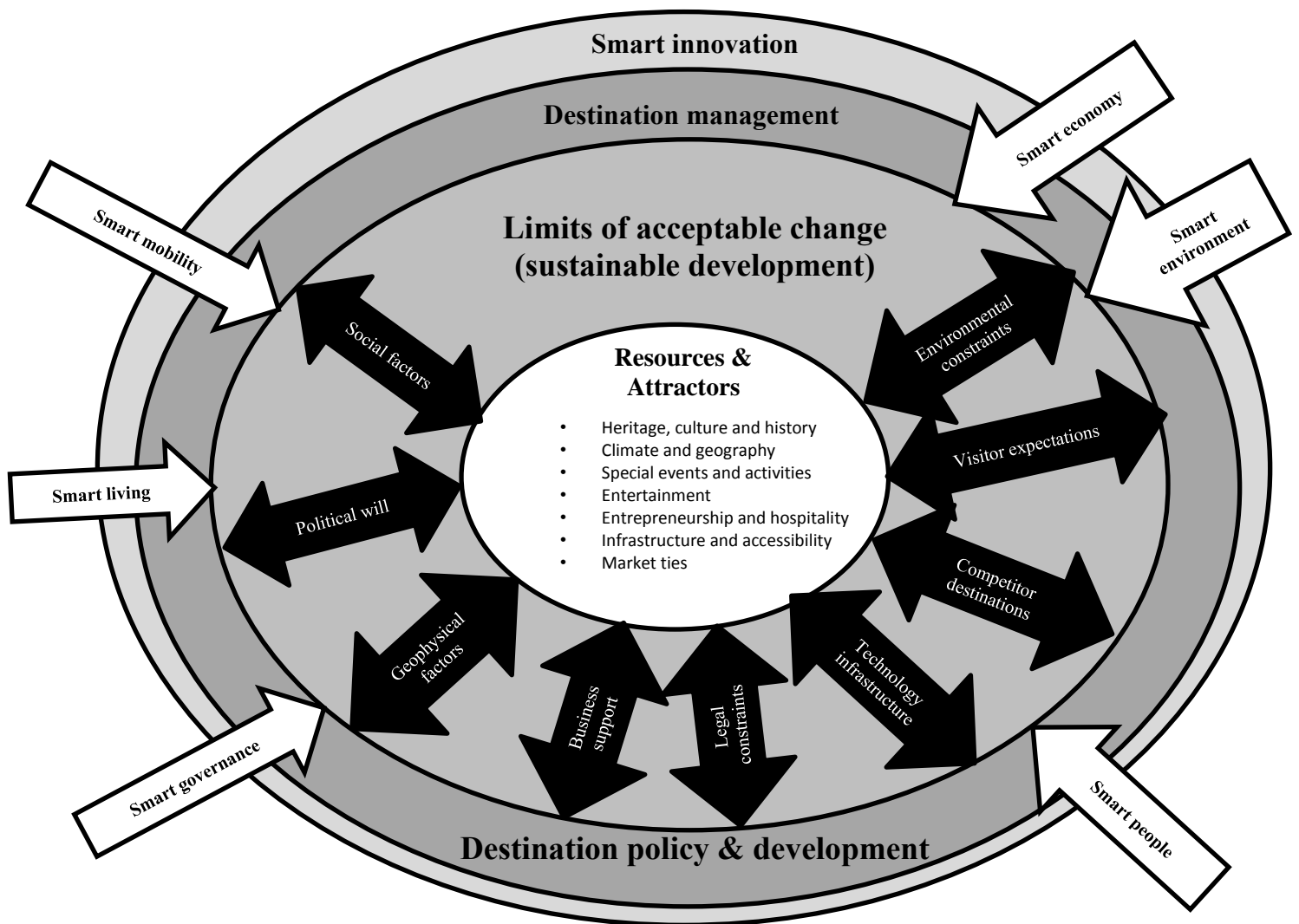


Figure 2. The resilient smart tourism destination – a conceptual framework for future proofing today’s smart tourism cities (Coca-Stefaniak, 2019).

Sandwiched between the destination management sphere and its core (attractors and resources) a key domain will continue to develop in the future and attract scrutiny in line with society’s growing awareness of environmental sustainability issues. This domain, referred to in Figure 2 above as the Acceptable Limits of Change Domain, adopts the sustainability doughnut principle first posited by Raworth (2012) and is linked conceptually to earlier research on the limits of acceptable change first applied to the conservation of wilderness areas (Stankey *et al.*, 1985) and later used in the analysis of tourism destinations (see, for instance, Ahn *et al.*, 2002; or Frauman and Banks, 2011). The Acceptable Limits of Change Domain, which also incorporates elements from Wang and Pizam’s (2011) destination marketing and management conceptual framework, will remain the main area of contention for the sustainable smart tourism destination of the future, particularly in the case of tourism cities. This domain will host issues likely to shape tourism cities now and in the medium to long-term future, including, overtourism, terrorism, climate change, town centre retail businesses struggling to compete with online retail, political conflict, gentrification, changes in visitor behaviour and expectations, and the future proofing of technological solutions, to mention but a few. The acceptability of changes in this domain and, by default, the ability of destination management to expand its influence in tourism cities will grow in a vis-à-vis fashion influenced largely by the solutions that the smart innovations domain will be able to offer on a number of fronts, including environmental, governance, quality of life, local economy, human capital and mobility. It is the positively symbiotic co-existence of these two domains - the acceptable limits of change domain and the smart innovations domain - that

will deliver the future-proofing required for a new generation of wiser (not smarter) tourism destinations – the resilient smart tourism city. This resilience will also become a trait of character of the dwellers of this new generation of tourism cities, who will learn to adapt effectively to gradual changes (e.g. technological evolution) as well as sudden and potentially more traumatic ones, such as crises resulting from tipping or inflexion points, which may be related to environmental issues, political ones, demographic, economic or energy challenges, to mention but a few. Crucially, in the same way as wiser and more resilient smart tourism cities will learn to cooperate more closely with nearby smart villages and smart regions using a systems network approach to provide a temporary release to the pressures generated by these sudden changes, the role of technology in these processes will become a lot more subtle and intuitive. In line with this, a key defining characteristic of wise tourism destinations will be their ability to predict when their dwellers (residents, tourists, business visitors) may need a ‘technology detox’ moment to recharge, reflect and return to their daily activities re-invigorated. Thus, this new generation of resilient and wise tourism cities will enter a development phase perhaps slightly beyond our current understanding of artificial technology in as much as they will start to tune into our emotions, intellect and state of mind to create a symbiotic relationship with the ultimate source of resilience perfected by Nature over thousands of years: people.

References

Abella, A., Ortiz-de-Urbina-Criado, M. and de-Pablos-Heredero, C. (2017), "A model for the analysis of data-driven innovation and value generation in smart cities' ecosystems", *Cities*, 64, pp. 47-53.

Ahn, B., Lee, B. and Shafer, C.S. (2002), "Operationalizing sustainability in regional tourism planning: an application of the limits of acceptable change framework", *Tourism Management*, 23(1), pp.1-15.

Ahvenniemi, H., Huovila, A., Pinto-Seppä, I. and Airaksinen, M. (2017), "What are the differences between sustainable and smart cities?", *Cities*, 60, pp. 234-245.

Al Nuaimi, E., Al Neyadi, H., Mohamed, N. and Al-Jaroodi, J. (2015), "Applications of big data to smart cities", *Journal of Internet Services and Applications*, 6(1), p. 1-5.

Albino, V., Berardi, U. and Dangelico, R.M. (2015), "Smart cities: Definitions, dimensions, performance and initiatives", *Journal of Urban Technology*, 22:1, pp. 3-21.

Alizadeh, T. (2017), "An investigation of IBM's Smarter Cites Challenge: What do participating cities want?", *Cities*, 63, pp. 70-80.

Alter, S. (2019), "Making Sense of Smartness in the Context of Smart Devices and Smart Systems", *Information Systems Frontiers*, pp.1-13.

Angelidou, M. (2014), "Smart city policies: A spatial approach", *Cities*, 41, pp. S3-S11.

Arup (2010), *Smart cities: Transforming 21st century city via the creative use of technology*, London: ARUP.

Balducci, F. and Ferrara, A. (2018), "Using urban environmental policy data to understand the domains of smartness: An analysis of spatial autocorrelation for all the Italian chief towns", *Ecological Indicators*, 89, pp.386-396.

Balshaw, M. (2003), "Digital cities", *Journal of Urban History*, 29(4), pp. 421-436.

Battarra, R., Fistola, R. and La Rocca, R.A. (2016), "City SmartNESS: the energy dimension of the urban system", In: R. Papa and R. Fistola (eds.), *Smart energy in the smart city: urban planning for a sustainable future*, London: Springer, pp. 1-23.

Bock, B.B. (2016), "Rural marginalisation and the role of social innovation; a turn towards nexogenous development and rural reconnection", *Sociologia Ruralis*, 56(4), pp.552-573.

Boes, K., Buhalis, D. and Inversini, A. (2016), "Smart tourism destinations: ecosystems for tourism destination competitiveness", *International Journal of Tourism Cities*, 2(2), pp. 108-124.

Bosak, K. (2019), "The tourism system", In: K. Bosak and S.F. McCool (eds.), *A Research Agenda for Sustainable Tourism*, London: Edward Elgar Publishing.

Bower, J.L. and Christensen, C.M. (1995), “Disruptive technologies: catching the wave”, *Harvard Business Review*, DOI:[10.1016/0024-6301\(95\)91075-1](https://doi.org/10.1016/0024-6301(95)91075-1)

Buhalis, D. (2000), “Marketing the competitive destination of the future”, *Tourism Management*, 21, pp. 97-116.

Buhalis, D. and Amaranggana, A. (2014), “Smart tourism destinations”, In: Z. Xiang and I. Tussyadiah (eds), *Information and Communication Technologies in Tourism*, pp. 553-564.

Buhalis, D. and Amaranggana, A. (2015), “Smart tourism destinations enhancing tourism experience through personalisation of services”, In: I. Tussyadiah and A. Inversini (eds), *Information and Communication Technologies in Tourism*, pp. 377-389.

Crouch, G.I. and Ritchie, J.B. (1999), “Tourism, competitiveness, and societal prosperity”, *Journal of Business Research*, 44(3), pp. 137-152.

Caragliu, A., Del Bo, C. and Nijkamp, P. (2009), “Smart cities in Europe”, *Series Research Memoranda 0048*, Amsterdam: VU University Amsterdam.

Caragliu, A., Del Bo, C. and Nijkamp, P. (2011), “Smart cities in Europe”, *Journal of Urban Technology*, 18(2), pp. 65–82.

Carr, P.J. and Kefalas, M.J. (2009), *Hollowing out the middle: The rural brain drain and what it means for America*, New York: Beacon Press.

Carrera, F. (2016), “Wise Cities: 'Old' big data and 'slow' real time”, *Built Environment*, 42(3), pp. 474-497.

Coca-Stefaniak, J.A. (2019), “Marketing smart tourism cities – a strategic dilemma”, *International Journal of Tourism Cities*, Vol. 5, No. 4.

Coca-Stefaniak, J.A. (2020), “Beyond smart tourism cities – the need for a new generation of ‘wise’ tourism destinations”, *Journal of Tourism Futures*,

Cocchia, A. (2014), “Smart and digital city: a systematic literature review”, in: R. P. Dameri and C. Rosenthal-Sabroux (eds.), *Smart City – How to create public and economic value with high technology in urban space*, New York: Springer International Publ., pp. 13-43

Cohen, B. (2013), *Smart Cities Wheel*, <https://www.smart-circle.org/smartcity/blog/boyd-cohen-the-smart-city-wheel/> (accessed on 15 September 2019).

Cugurullo, F. (2018), “The origin of the smart city imaginary”, In: C. Lindner and M. Meissner (eds.), *The Routledge Companion to Urban Imaginaries*, London: Routledge.

Dameri, R. P. (2013), “Searching for smart city definition: a comprehensive proposal”, *International Journal of Computers & Technology*, 11(5), pp. 2544–2551.

Dameri, R.P. (2017), “Using ICT in smart city”, In: R.P. Dameri (ed.), *Smart City Implementation*, London: Springer, pp. 45-65.

Eger, J.M. (2009), "Smart growth, smart cities and the crisis at the pump – A worldwide phenomenon," *I-Ways*, 32 (1), pp. 47-53.

European Union (2019), *European Capital of Smart Tourism*, <https://smarttourismcapital.eu/> (accessed on 23 October 2019).

Femenia, F. and Perea-Medina, M.J. (2016), "Analysis of three Spanish potential smart tourism destinations", *6th International Conference on Tourism (ICOT)*, Naples.

Florida, R. (2006), "The flight of the creative class: The new global competition for talent", *Liberal Education*, 92(3), pp. 22-29.

Frauman, E. and Banks, S. (2011), "Gateway community resident perceptions of tourism development: Incorporating importance-performance analysis into a limits of acceptable change framework", *Tourism Management*, 32(1), pp.128-140.

Gibbs, D., Krueger, R. and MacLeod, G. (2012), "Grappling with smart city politics in an era of market triumphalism", *Urban Studies*, 50(11), pp. 2151-2157.

Giffinger, R., Fertner, C., Kramar, H., Kalasek, R., Pichler-Milanović, N. and Meijers, E. (2007), *Smart cities – ranking of European medium-sized cities*, Vienna University of Technology, http://curis.ku.dk/ws/files/37640170/smart_cities_final_report.pdf (accessed on 21 October 2019)

Gil-Garcia, J.R., Zhang, J. and Puron-Cid, G. (2016), “Conceptualizing smartness in government: An integrative and multi-dimensional view”, *Government Information Quarterly*, 33(3), pp. 524-534.

Gil-Garcia, J.R., Pardo, T.A. and De Tuya, M. (2019), “Information Sharing as a Dimension of Smartness: Understanding Benefits and Challenges in Two Megacities”, *Urban Affairs Review*, <https://doi.org/10.1177/1078087419843190>.

Giovannella, C. and Rehm, M. (2015), “A critical approach to ICT to support participatory development of people centered smart learning ecosystems and territories”, *Aarhus Series on Human Centered Computing*, 1(1), p.2.

Govada, S.S., Spruijt, W. and Rodgers, T. (2017), “Smart city concept and framework”, In: *Smart Economy in Smart Cities*, pp. 187-198, Singapore: Springer.

Graham, S. and Guy, S. (2002), “Digital space meets urban place: Socio-technologies of urban restructuring in downtown San Francisco”, *City*, 6(3), pp. 369-382.

Graham, S. (ed.) (2004) *The Cybercities Reader*. London: Routledge.

Greenfield, A. (2013), *Against the smart city*, New York: Do Publ.

Gretzel, U. (2011), “Intelligent systems in tourism: A social science perspective”, *Annals of Tourism Research*, 38(3), pp. 757–779.

Gretzel, U., Werthner, H., Koo, C. and Lamsfus, C. (2015), "Conceptual foundations for understanding smart tourism ecosystems", *Computers in Human Behavior*, 50, pp. 558-563.

Guo, Y., Liu, H. and Chai, Y. (2014), "The embedding convergence of smart cities and tourism internet of things in China: an advance perspective", *Advances in Hospitality and Tourism Research*, 2(1), pp. 54-69.

Hajer, M.A. and Dassen, T. (2014), *Smart about cities: Visualising the challenge for 21st century urbanism*. Rotterdam: PBL Pub.

Hall, P. (2000), "Creative cities and economic development", *Urban Studies*, 37(4), pp. 633–649.

Hambleton, R. (2015), "From smart cities to wise cities", *AAG Annual Meeting*, Chicago, Illinois, 21-26 April.

Haubensak, O. (2011), *Smart cities and the Internet of things*, Zurich: ETH.

Hawkes J. (2001), *The fourth pillar of sustainability: Culture's essential role in public planning*, Melbourne: Common Ground.

Hedlund, J. (2012), *Smart city 2020: Technology and society in the modern city*, Microsoft Services.

Hollands, R.G. (2008), "Will the real smart city please stand up?", *City*, 12(3), pp. 303-320.

Huang, X.K., Yuan, J.Z. and Shi, M.Y. (2012), “Condition and key issues analysis on the smarter tourism construction in China”, In: F.L. Wang, J. Lei, R.W. Lau and J. Zhang (eds), *Multimedia and Signal Processing: Second International Conference, CMSP 2012, Shanghai (China), December 7-9, 2012, Proceedings*, Berlin: Springer Publ., pp. 444-450.

Hughes, K. and Moscardo, G. (2019), “ICT and the future of tourist management”, *Journal of Tourism Futures*, DOI 10.1108/JTF-12-2018-0072

IBM (2010), Smarter thinking for a smarter planet, <https://www.ibm.com/ibm/history/ibm100/us/en/icons/smarterplanet/> (accessed 22 October 2019)

IBM (2017), *Smarter cities challenge aims to make lasting urban improvements*, <https://www.ibm.com/blogs/cloud-computing/2017/02/17/smarter-cities-challenge-improvements/> (accessed on 22 October 2019).

Ismagilova, E., Hughes, L., Dwivedi, Y.K. and Raman, K.R. (2019), “Smart cities: Advances in research—An information systems perspective”, *International Journal of Information Management*, 47, pp. 88-100.

Ivars-Baidal, J.A., Celdrán-Bernabeu, M.A., Mazón, J.N. and Perles-Ivars, Á.F. (2019), “Smart destinations and the evolution of ICTs: a new scenario for destination management?”, *Current Issues in Tourism*, 22(13), pp.1581-1600.

Jasrotia, A. and Gangotia, A. (2018), "Smart cities to smart tourism destinations: A review paper", *Journal of Tourism Intelligence and Smartness*, 1(1), pp.47-56.

Johnson, A. and Samakovlis, I. (2019), "A bibliometric analysis of knowledge development in smart tourism research", *Journal of Hospitality and Tourism Technology*,
<https://doi.org/10.1108/JHTT-07-2018-0065>

Jyotsna, J.H. and Maurya, U.K. (2019), "Experiencing the real village—a netnographic examination of perceived authenticity in rural tourism consumption", *Asia Pacific Journal of Tourism Research*, 24(8), pp. 750-762.

Kitchin, R. (2015), "Making sense of smart cities: addressing present shortcomings", *Cambridge Journal of Regions, Economy and Society*, 8, pp. 131–136.

Koo, C., Shin, S., Gretzel, U., Hunter, W.C. and Chung, N. (2016), "Conceptualization of smart tourism destination competitiveness", *Asia Pacific Journal of Information Systems*, 26(4), pp. 561-576.

Kolotouchkina, O. and Seisedos, G. (2018), "Place branding strategies in the context of new smart cities: Songdo IBD, Masdar and Skolkovo", *Place Branding and Public Diplomacy*, 14(2), pp. 115-124.

Komninos, N. (2011), "Intelligent cities: Variable geometries of spatial intelligence," *Intelligent Buildings International*, 3(3), pp. 172-188.

Kummitha, R.K.R. and Crutzen, N. (2017), “How do we understand smart cities? – An evolutionary perspective”, *Cities*, 67, pp. 43-52.

Lara, A.P., Da Costa, E.M., Furlani, T.Z. and Yigitcanla, T. (2016), “Smartness that matters: towards a comprehensive and human-centred characterisation of smart cities”, *Journal of Open Innovation: Technology, Market, and Complexity*, 2(2), p.8.

Lim, C., Kim, K. Maglio, P. (2018), “Smart cities with big data: references models, challenges and considerations”, *Cities*, 82, pp. 86-99.

Lytras, M. and Visvizi, A. (2018), “Who uses smart city services and what to make of it: Toward interdisciplinary smart cities research”, *Sustainability*, 10(6), p. 1998.

Lytras, M.D., Visvizi, A. and Mudri, G. (2019), “Smart villages: Mapping the emerging field and setting the course of action”, In: *Smart Villages in the EU and Beyond* (pp. 173-176), Emerald Publ.: Bingley.

[Macao Government Tourism Office \(2019\)](https://www.gov.mo/en/news/110041/), <https://www.gov.mo/en/news/110041/> (accessed 23 October 2019)

Manville, C., Cochrane, G., Cave, J., Millard, J., Pederson, J.K., Thaarup, J.K., Liebe, A., Wissner, M., Massink, R. and Kotterink, B. (2014), *Mapping Smart Cities in the EU*, European Parliament, Directorate General for Internal Policies, Policy Department A: Economic and Scientific Policy,

[http://www.europarl.europa.eu/RegData/etudes/etudes/join/2014/507480/IPOL-ITRE_ET\(2014\)507480_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/etudes/join/2014/507480/IPOL-ITRE_ET(2014)507480_EN.pdf) (accessed on 21 October, 2019).

March, H. (2018), “The smart city and other ICT-led techno-imaginaries: Any room for dialogue with degrowth?”, *Journal of Cleaner Production*, 197, pp. 1694-1703.

Meijer, A. and Bolívar, M.P.R. (2016), “Governing the smart city: a review of the literature on smart urban governance”, *International Review of Administrative Sciences*, 82(2), pp. 392-408.

Molinillo, S., Anaya-Sánchez, R., Morrison, A.M. and Coca-Stefaniak, J.A. (2019), “Smart city communication via social media: Analysing residents' and visitors' engagement”, *Cities*, 94, pp. 247-255.

Monitor Deloitte (2015), *Smart cities – Not just the sum of its parts*, http://www2.deloitte.com/content/dam/Deloitte/xs/Documents/strategy/me_deloitte-monitor_smart-cities.pdf (accessed on 19 September 2019).

Morrison, A.M., Lehto, X.Y., Day, J.G. and Mill, R.C. (2018), *The Tourism System*, New York: Kendall Hunt Publ.

Naldi, L., Nilsson, P., Westlund, H. and Wixe, S. (2015), “What is smart rural development?”, *Journal of Rural Studies*, 40, pp. 90-101.

Northstream (2010), *White paper on revenue opportunities*, <http://northstream.se/white-paper/archive>

OECD (2011), *M-Government - Mobile technologies for responsive government and connected societies*, Technical report, OECD Publishing.

Oliveira, E. and Panyik, E. (2015), “Content, context and co-creation: Digital challenges in destination branding with references to Portugal as a tourist destination”, *Journal of Vacation Marketing*, 21(1), pp. 53-74.

Papaix, C. and Coca-Stefaniak, J.A. (2020), “Transport in tourism cities – beyond the functional and towards an experiential approach”, In: A.M. Morrison and J.A. Coca-Stefaniak (eds.), *Routledge Handbook of Tourism Cities*, London: Routledge

Peters, M.A. (2017), “Technological unemployment: Educating for the fourth industrial revolution”, *Journal of Self-Governance and Management Economics*, 5(1), pp.25-33.

Picon, A. (2015), *Smart cities. A spatialized Intelligence*, New York: Palgrave Macmillan.

Porter, M.E. and Heppelmann, J.E. (2014), “How smart, connected products are transforming competition”, *Harvard Business Review*, 92(11), pp. 64-88.

Ramaprasad, A., Sánchez-Ortiz, A. and Syn, T. (2017), “A unified definition of a smart city”, In: *International Conference on Electronic Government*, pp. 13-24, London: Springer.

Raworth, K. (2012), *A safe and just space for humanity: Can we live within the doughnut?*, Oxford: Oxfam GB,

<https://oxfamibrary.openrepository.com/bitstream/handle/10546/210490/dp-a-safe-and-just-space-for-humanity-130212-en.pdf?sequence=13> (accessed on 22 October 2019)

Rheingold, H. (2002), *Smart mobs: the next social revolution*. Cambridge (MA): Perseus.

Ruhlandt, R.W.S. (2018), “The governance of smart cities: A systematic literature review”, *Cities*, 81, pp. 1-23.

Rutherford, J. (2011), “Rethinking the relational socio-technical materialities of cities and ICTs”, *Journal of Urban Technology*, 18(1), pp. 21-33.

Sadowski, J. and Bendor, R. (2019), “Selling smartness: Corporate narratives and the smart city as a sociotechnical imaginary”, *Science, Technology, & Human Values*, 44(3), pp. 540-563.

Sassen S. (2011), *Talking back to your intelligent city*,
<http://voices.mckinseysociety.com/talking-back-to-your-intelligent-city/> (accessed 20 July, 2016).

Sengers, F., Späth, P. and Raven, R. (2018), “Smart city construction: Towards an analytical framework for smart urban living labs”, In: S. Marvin, H. Bulkeley, L. Mai, K. McCormick and Y.V. Palgan (eds.), *Urban living labs: Experimenting with city futures*, London: Routledge, pp. 74-88.

Schwab, K. (2017), *The fourth industrial revolution*, Currency.

Setis-Eu (2012), *European Initiative on Smart Cities*, <https://setis.ec.europa.eu/set-plan-implementation/technology-roadmaps/european-initiative-smart-cities> (accessed 22 October 2019)

Shenga, M. and Gub, C. (2018). “Economic growth and development in Macau (1999–2016): The role of the booming gaming industry”, *Cities*, 75, pp. 72-80.

Sims, R. (2009), “Food, place and authenticity: local food and the sustainable tourism experience”, *Journal of Sustainable Tourism*, 17(3), pp. 321-336.

Stankey, G.H., Cole, D.N., Lucas, R.C., Petersen, M.E. and Frissell, S.S. (1985), *The limits of acceptable change (LAC) system for wilderness planning*, (INT-176).

Su, K., Li, J. and Fu, H. (2011), ”Smart city and the applications”, *IEEE International Conference on Electronics, Communications and Control (ICECC)*, pp. 1028–1031.

Thite, M. (2011), “Smart cities: Implications of urban planning for human resource development,” *Human Resource Development International*, 14 (5), pp. 623-631.

Townsend, A. (2013), *Smart cities: Big data, civic hackers, and the quest for a new utopia*, New York: WW Norton & Company.

Townsend, A. (2014), "Utopolis: A manifesto for smart city development", *The European*, <http://www.theeuropean-magazine.com/anthony-townsend--2/8244-a-manifesto-for-smart-city-development> (accessed 20 July, 2016).

Turismo y Planificación Costa del Sol (2017), Media Pack 2017, www.visitcostadelsol.com (accessed 23 October 2019).

Vanolo, A. (2014), "Smartmentality: The smart city as disciplinary strategy", *Urban Studies*, 51(5), pp. 883-898.

Viñas, C.D. (2019), "Depopulation processes in European rural areas: A case study of Cantabria (Spain)", *European Countryside*, 11(3), pp. 341-369.

Visvizi, A. and Lytras, M.D. (2018), "Rescaling and refocusing smart cities research: From mega cities to smart villages", *Journal of Science and Technology Policy Management*, 9(2), pp. 134-145.

Voytenko, Y., McCormick, K., Evans, J. and Schliwa, G. (2016), "Urban living labs for sustainability and low carbon cities in Europe: Towards a research agenda", *Journal of Cleaner Production*, 123, pp. 45-54.

Wan, P.Y.K. and Pinheiro, F.V. (2014), "Macau's tourism planning approach and its shortcomings: A case study", *International Journal of Hospitality & Tourism Administration*, 15(1), pp. 78-102.

World Economic Forum (2016), “The future of jobs: Employment, skills and workforce strategy for the fourth industrial revolution”, In: *Global Challenge Insight Report, World Economic Forum, Geneva.*

Zygiaris, S. (2013), “Smart city reference model: Assisting planners to conceptualize the building of smart city innovation ecosystems”, *Journal of the Knowledge Economy*, 4(2), pp. 217–231.

Wang, D., Li, X. and Li, Y. (2013), “China’s “smart tourism destination” initiative: A taste of the service-dominant logic”, *Journal of Destination Marketing & Management*, 2(2), pp. 59-61.

Wang, Y. and Pizam, A. (2011), *Destination Marketing and Management: Theories and Applications*, London: CABI

Zhu, W., Zhang, L. and Li, N. (2014), “Challenges, function changing of government and enterprises in Chinese smart tourism”, In: Z. Xiang and L. Tussyadiah (eds.), *Information and Communication Technologies in Tourism*, Dublin: Springer.

Zygiaris, S. (2013), “Smart city reference model: Assisting planners to conceptualize the building of smart city innovation ecosystems”, *Journal of the Knowledge Economy*, 4(2), pp.217-231.