

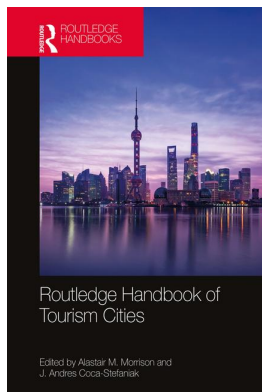
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SUSTAINABLE TOURISM IN CITIES

Jonathon Day

Introduction

Urbanisation has been a defining feature of the past 30 years. Since 1990 the portion of people living in cities has grown from 43% to an expected 56% in 2020 (UN_DESA, 2018) with over two billion more people living in cities. During that same period, international tourism has grown from just over 400 million to over 1.3 billion travellers, with domestic travel considered to account for at least four times that number (UNWTO, 2018). These two important social phenomena have interacted in complex, often complementary ways throughout the years. As the world faces increasing challenges, cities and the tourism industry are working to respond and support sustainable development goals. Achieving sustainability in both cities and tourism systems is a wicked problem, and this chapter applies a systems-thinking approach to addressing the issues facing sustainable tourism in cities.

Growth of cities and urban tourism

We have experienced extraordinary growth in cities during the past 50 years. Today more people live in cities than ever before. Over half the world's population lives in cities. And cities are growing larger and more complex. There are now 33 megacities, cities with more than ten million inhabitants, with another ten cities expected to meet the threshold of megacity by the end of the decade (United Nations, 2018).

Cities face challenges as they grow and adapt to new circumstances. Much of the growth in urbanisation has taken place in developing countries. Cities all around the world face challenges, but many of the problems are most acute in developing-world cities. Cities are at the frontline of many of the twenty-first century's major challenges. Environmental issues are perhaps most acute in cities. Water shortages in Cape Town, South Africa, air pollution in Beijing, and the fight against plastic waste in cities like Seattle are merely some of the more prominent stories of a wide-reaching set of environmental issues facing cities. Cities are confronting the impacts of climate change. Beyond environmental issues, cities are facing challenges with a wide range of economic, social and cultural issues. These range from social challenges like the impacts of poverty and inequality to the loss of heritage and cultural identity. The World Cities (UN-Habitat, 2016) report identifies a number of problems, including the growth of slums and

informal settlements, the challenge of providing municipal services, issues of inequality and exclusion, rising insecurity and crime, and climate change. The importance of ensuring that cities are sustainable is a global priority and has been highlighted in Sustainable Development Goal (SDG) 11: “Make cities and human settlements inclusive, safe, resilient and sustainable”, one of the 17 Sustainable Development Goals identified by the United Nations.

Cities have always been attractions for visitors. From the earliest times, cities have drawn a wide range of visitors, from business travellers to leisure travellers to pilgrims. Today, cities are growing in importance to tourism. WTTC (2018) notes that the top 300 cities account for approximately 45% of all arrivals and the market share of urban travel is expected to continue to rise. As cities attract new visitors, their tourism growth creates new issues. Although often touted as an economic benefit to cities, tourism comes with a range of benefits and costs for the host destination. Some issues, like “overtourism”, have risen to the top of public consciousness in recent years, but tourism presents a range of challenges – and opportunities – for cities. Despite the importance of sustainability and urban tourism, research on the topic is scarce. As early as 1996, it was noted that “despite the emerging literature on sustainable cities, the role of tourism within them is largely ignored” (Hinch, 1996). While there has been some improvement since 1996, much still needs to be done.

Sustainable urban tourism systems

Given this context, it is important that tourism be sustainable. Yet, achieving such an outcome – indeed, even determining what sustainable tourism means for cities – is challenging. This chapter will examine sustainability in urban destinations through several lenses, each of which requires discussion and exploration. Sustainability in cities and sustainable urban tourism are complicated, complex problems. While there has been considerable progress in elements of these problems, there is value in examining these issues from a systems perspective.

Sustainability and sustainable tourism

It is worthwhile defining both sustainability and sustainable tourism. Sustainability, a term used frequently in society, has been acknowledged as a term that is poorly defined and not well understood (Day, 2016). Much of the discussion over the last three decades about sustainability has its beginnings in new approaches to sustainable development initiated in the late 1980s. Sustainable development is commonly defined as “to ensure that (development) meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). A related concept, frequently associated with sustainability, is the “triple-bottom-line” (TBL). The approach, first proposed by Elkington (1997), borrows from accounting and recognises the costs and benefits of action against three broad categories of impact – environmental, social and economic. A third key theme of sustainable development is stakeholder engagement. Freeman (1984) described stakeholders as “any individual or organization who can affect or is affected by the achievement of an organization’s objectives” (Freeman, 1984). While Freeman’s work focused on corporations, the concept of stakeholder engagement and management has extended into broader society. While these three core themes – focused on present and future use, optimising the TBL and engaging stakeholders in the sustainable development process – are adopted in a wide range of academic and institutional literature, each theme is open to significant variations in interpretation. For example, many researchers and practitioners focus primarily on environmental issues when discussing sustainability. Perhaps as a result, agreement on what sustainability means in practice varies widely.

Definitions of sustainable tourism incorporate the three definitional themes of sustainability. For example, the United Nations World Tourism Organization (UNWTO) defines sustainable tourism as “Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities” (UNWTO, 2005). It is important to note the principles of sustainable tourism are relevant to cities and are not limited to small-scale tourism operations in environmentally sensitive locations. Since the Mohonk Agreement (2000) there has been an explicit understanding that sustainable tourism is a set of principles that can be applied to any tourism organisation or system. Nevertheless, discussions of sustainability in urban tourism have been lacking (Maxim, 2016). Too often discussions of sustainable tourism focus on rural and natural areas, overlooking the sustainability issues associated with urban centres. As a result, little research has focused on sustainable tourism in cities (Maxim, 2016). This knowledge gap must be addressed if tourism is to contribute to more sustainable cities.

Sustainable tourism management: it's complicated

While these definitions may seem straightforward enough, it is important to recognise the range of activities required to implement these principles. Although conceptually the TBL is simple, determining what must be done to achieve optimal outcomes in the social, environmental and economic pillars has proven a challenge. Some are frustrated that there is a gap between “sustainability doctrine and actual achievements” (Ruhanen, 2008). While the idea of sustainable tourism has been widely adopted, many consider the implementation of sustainable tourism programmes to be disappointing (Hall, 2011). While there are many factors contributing to this frustration, one is the need to determine what specifically must be done to achieve sustainable tourism.

There are efforts to move sustainable tourism from a mere philosophical base (Ruhanen, 2008) to a set of activities that are applicable to tourism-related organisations. Operationalising sustainable tourism is complicated; a large number of activities must be managed over an extended period of time. Each TBL pillar requires specific sets of actions and even determining what activities must be undertaken has proven challenging. As noted previously, while there is general consensus on the definition of sustainability, there is variation on how its key themes are interpreted and, as Bricker and Schultz (2011) note, definitions of sustainability have implications for the component activities and related metrics of many programmes. A number of researchers have presented sets of indicators to measure the performance of specific elements of sustainable tourism (Schianetz and Kavanagh, 2008, Torres-Delgado and Palomeque, 2014, Franzoni, 2015). The growth of certifications for sustainable tourism reflects the need for a comprehensive set of sustainable tourism measures to understand how destinations, including cities, perform. The UNWTO is working with governments around the world to develop a set of indicators (2017). Although significant progress has been made at a national level, regional and subnational metrics are still being developed. Of course, the identification of criteria for achieving sustainable tourism and indicators for measuring progress are only the first steps in managing for performance improvement.

The rhetoric of sustainable tourism envisages systematic policies and programmes, with multiple organisations working in unity toward comprehensive goals. Significant focus on the implementation of sustainable tourism has focused on the destination. For example, the Global Sustainable Tourism Council has identified 42 criteria and 108 performance indicators for destinations (GSTC, 2013). These criteria are organised around four pillars, including the three TBL components and management. A handful of destinations have been certified for their

comprehensive approach to sustainable tourism management. Regions with towns and cities like Kaikoura, New Zealand and Huatulco, Mexico as well as cities, Vail and Sedona have implemented comprehensive sustainable tourism plans (GSTC, 2019) but these destinations remain the exception rather than the rule. Rather than comprehensive programmes, many sustainable tourism initiatives focus on specific activities – such as reducing waste or buying locally – and sustainable tourism programmes tend to be somewhat piecemeal in their implementation in at least two ways. Sustainable tourism programmes tend to be “isolated and limited” (Maxim, 2016).

As we will address later, the sustainability of a tourism system implies that the various subsystems and individual actors each contribute to the system’s sustainability. The focus on destination-level sustainable tourism programmes sometimes overlooks activities that must be undertaken by businesses and other actors. Sustainability cannot be achieved in cities without businesses and other organisations adopting sustainable tourism activities. These actions, often described as “corporate social responsibility”, are also comprehensive sets of actions a business may undertake to demonstrate its corporate citizenship. Some of these recommendations for corporate behaviour come from outside tourism, while others are specific to tourism. Influential programmes from outside tourism include the Global Reporting Initiative (GRI), a comprehensive reporting system for corporations that has been adopted by hotel companies (GRI, 2013), and the LEED programme offered by the US Green Building Council. With tourism, GSTC has a set of criteria for tourism enterprises. Finally, individuals in the urban destination must adopt a set of pro-TBL behaviours to contribute to sustainability. Programmes like the Travel Care Code (TCCI, 2019) identify sets of behaviours appropriate for responsible travellers seeking to support sustainability in the host destination. Individuals, businesses and organisations, destinations – each are elements of the tourism system and each must contribute to the sustainability of the city. The systemic nature of sustainable tourism is the topic of the following section.

Tourism systems | urban systems

Recognising the systemic nature of both tourism and cities and applying a systems-thinking approach to understanding them is useful. Systems thinking has been described as “the discipline for seeing wholes. It is a framework for seeing interrelationships rather than things, seeing patterns of change rather than static ‘snapshots’” (Senge, 1990). Perhaps more specifically, Arnold and Wade (2015) define systems thinking as “a set of synergistic analytic skills used to improve the capability of identifying and understanding systems, predicting their behaviors, and devising modifications to them to produce desired effects. These skills work together as a system” (Arnold and Wade, 2015). Rather than taking a reductionist approach to a significant problem and breaking it down to solve specific elements of the issue, systems thinking looks at the whole (Baggio, 2013). The application of systems thinking is growing in a variety of fields. For instance, in business – in the years since Senge (1990) popularised systems thinking within a business – it has become common to talk about “eco-systems” for entrepreneurs and emerging industries.

The value of considering tourism as a system is growing in recognition. Although researchers have identified tourism’s systemic nature for over 30 years (Leiper, 1990, Mill and Morrison, 2002), it is rare that the implications of tourism system characteristics are explored. Understanding this term and its implications provides important insights into the nature of the challenges faced in cities seeking to achieve sustainable tourism. Meadows describes systems as “a set of things – people, cells, molecules, or whatever – interconnected in such a way that they produce their own pattern of behaviors” (2008). She goes on to say “a system is an interconnected set of elements that is coherently organized in a way that achieves something ...

[a] system must consist of three kinds of things: elements, interconnections and a function or purpose” (Meadows, 2008). The tourism system meets these definitional requirements; it is composed of a wide range of actors – organisations and individuals – working through a complex network of relationships to deliver hospitality-related experiences to visitors.

There are several aspects of the nature of systems that are worth noting. First “a system is more than the sum of its parts” (Meadows, 2008). The tourism experience is often perceived as more than the sum of the products and services consumed. For example, destination image researchers refer to the “gestalt” of a destination image. Second, a system “may exhibit adaptive, dynamic, goal seeking, self-preserving, and sometimes evolutionary behavior” (Meadows, 2008). Third, both the tourism system and cities can be described as Complex Adaptive Systems (CAS). A CAS is “a large collection of diverse parts interconnected in a hierarchical manner such as the organization persists and grows over time without centralized control”. We will explore the term “complexity” in more detail in the next section. Fourth, CAS tend to be open systems; that is, a CAS is “continually interacting with the external environment, and able to dynamically maintain its integrity and function” (Baggio et al., 2010). Fifth, “systems are dynamic, adapting and evolving over time. The brain, the immune system, an ant colony, and human society are often presented as examples” (Eidelson, 1997). Farrell and Twining-Ward (2005) highlight the importance of understanding tourism as a complex adaptive system as a critical step toward sustainable tourism. Discussing sustainable tourism as a system can provide a new perspective. The saying “can’t see the forest for the trees” describes a challenge that actors in the system face. Actors within the system are not necessarily aware of their role in the system or the way their actions impact the performance of the system. Stepping back and considering the functions of the whole system can provide useful perspective for actors in the system.

Complexity in the city and the wicked problem of sustainable tourism

If sustainable tourism programmes are complicated, then urban and tourism systems are best described as complex. Complexity is difficult to define (Johnson, 2007, Heylighen, 2008); nevertheless, Heylighen (2008) provides a summary of commonly identified characteristics:

Complexity is situated between order and disorder ... complex systems are neither random and chaotic ... nor regular and predictable.... Complex systems consist of many parts that are connected via their interactions ... they are distinct and connected, both autonomous and mutually dependent.

(Heylighen, 2008, p. 4)

Heylighen also notes that the activity of one actor may impact other players, and the impacts may be both local and global. Another important characteristic of complexity is that a change in one part of the system may lead to “non-linear” changes in other parts of the system, but their effects may not be proportional to their causes, which make systems difficult to control. The “Butterfly Effect”, the idea that a butterfly flapping its wings may cause a hurricane on the other side of the world, describes non-linearity well. Non-linear changes in systems are difficult to anticipate, and there are many examples of unintended consequences resulting from non-linear effects of policy changes.

Cities are complex systems. “Complexity is a function of the number and diversity of the players who are involved” (Conklin, 2005), and cities have a large number of diverse players. So, too, does the tourism system. Several authors (Farrell and Twining-Ward, 2004, Day, 2016) have recognised the significance of complexity in addressing sustainable tourism. Recognising

the complexity of the system provides a foundation for analysis (Farsari et al., 2011). The challenge of implementing sustainable tourism practices in a city can best be described as a complex or “wicked” problem. Implementing sustainable tourism shares characteristics with other complex, wicked problems, such as reducing poverty, addressing climate change or reducing opioid usage. Wicked problems share a number of characteristics: “There is no simple solution to a wicked problem. Proposed solutions are neither wholly right nor completely wrong, and every wicked problem is unique” (Morrison et al., 2019). Rittel and Webber (1973) further expand on the characteristics of wicked problems. They note that there is no “stopping rule” for wicked problems; addressing wicked problems is an ongoing endeavour. There is no test to determine the end to a wicked problem, and consequences – both intended and unintended – can extend into the future. There are no black and white answers to wicked problems; solutions are either better or worse or good enough. Even so, every attempt at solving a wicked problem counts; there are no inconsequential trials in working to solve these problems. Every wicked problem is unique, and each solution has various unique characteristics. Every wicked problem can be considered a symptom of another problem. And finally, how the problem is framed will determine its solution (Rittel and Webber, 1973).

Recognising that implementing sustainable tourism in a tourism system is a wicked problem suggests that, while there are lessons to be learned from other’s experiences, each city’s approaches will be unique. There is no single answer to the challenge. The complexity of sustainable tourism implies that, while it is useful to develop standardised sets of sustainable tourism indicators, the implementation of sustainable tourism is going to be different in each tourism system.

Applying systems thinking to tourism and cities

Although the systems nature of tourism is recognised, the implications are rarely unpacked. It is worthwhile to examine some of the fundamental characteristics of systems and system thinking. In considering urban tourism from a systems perspective, we will examine a number of distinct characteristics including system hierarchies, system management and governance, feedback loops, resilience, adaptation and tipping points.

System hierarchies: A powerful insight from systems thinking is that all systems are composed of other systems, or subsystems. In the body, a cell is a system, within an organ, within an animal, within an ecosystem. Meadows (2008) notes that the world is created by subsystems aggregating into larger systems and that “systems evolve from the bottom up”. Several tourism researchers have adopted a hierarchy of systems to address tourism issues. Kline et al. (2013) recognise these hierarchies and note that ecological systems theory defines the hierarchies in terms of microsystems, mesosystems and macrosystems. Similarly, Baggio (2017) highlights three scales – micro, meso and macro – as common units of network analysis. Farrell and Twining-Ward (2004) describe complex adaptive tourism system hierarchy as a tourism “panarchy”, composed of a core tourism system, comprehensive tourism system and regional tourism system, which is ultimately embedded in the larger global/earth system. Arnold and Wade (2015), in defining systems thinking, highlight the importance of understanding systems at different scales. It is important to note that much of the conversation about sustainable tourism refers to tourism destinations. Destinations, like the tourism system and cities, are complex adaptive systems (Baggio et al., 2010, Day, 2016).

Applying this approach to sustainability within the tourism system, it becomes clear that effecting change throughout the hierarchy and in a variety of subsystems is necessary. In each city destination, change must occur at a (micro) individual behaviour, at the (meso) business or enterprise level, and in the destination (macro) system as a whole.

It is noteworthy that much of the research described as “sustainable tourism” focuses on destinations. In the same way that we lack a full picture of sustainability because of our focus on specific actions, our understanding of the research undertaken addressing sustainable tourism can be limited by the narrow range of work defined by the term. Research examining sustainable tourism in tourism systems is being done under a variety of themes, and much is not identified as sustainable tourism per se.

This is not to say that significant work has not been undertaken that contributes to sustainability in the tourism system. There is a significant body of research in the environmental performance of hotels and other types of businesses within tourism. There is also a significant research theme addressing the ways in which enterprises and other organisations address social justice issues. Collectively, these studies addressing elements of corporate social responsibility are addressing elements of sustainable tourism at the meso-level of the system.

Studies of individual behaviours as they relate to sustainability must also be considered in terms of the sustainable tourism system as a whole. Indeed, there are at least two streams of behaviour to consider – individual traveller behaviour and organisational behaviour. Individual travellers’ pro-sustainable tourism behaviours extend from pro-environmental behaviours to other behaviours that support positive TBL outcomes, such as cultural awareness and conscious consumption. With few exceptions – Miller et al. (2014) examination of pro-environmental behaviours in Melbourne, for example – these studies are rarely considered in the context of their relationship to the urban tourism system as a whole. The adoption of sustainable tourism in organisations and other social structures requires organisational change, and while this is an important field of study in management, sociology and political science, there is still much to learn. Although much of the discussion on sustainable tourism focuses on macro-level issues, it is important not to overlook these micro-level issues. As Meadows notes, systems “evolve from the bottom up” (2008), so we must realise that the hierarchy of systems supporting sustainable tourism is driven by individual (micro-level) concerns for better global outcomes.

Perhaps one of the most important insights from a systems-thinking approach is the recognition that tourism is an embedded system within a larger social system. The tourism destination system is embedded in the larger system of the city itself. As Hunter (1995) notes,

it is extraordinary that to find in literature the earnest construction of “plans”, or “strategies” or “frameworks” which purport to chart a sustainable tourism development in a destination area or wider region, with little or no explicit or explanatory recourse to the actual or potential interactions with other sectors.

(Hunter, 1995)

This is a critical issue as many of the services that facilitate sustainable tourism systems are provided by organisations that do not consider themselves part of tourism. For example, tourism systems cannot use renewable energy unless it is available through energy utilities, and recycling at hotels or convention centres requires sanitation services that provide recycling.

A result of the traditional reductionist approach to science is the lack of examination of issues across the hierarchy levels. One exception is a study by Aydin and Emeksiz (2018) that provides success factors for urban sustainable tourism based on the economic performance of 330 small tourism enterprises. Such examination, applying a systems-thinking approach, can expose important paradoxes. For example, at an enterprise level, linen reuse programmes reduce energy and water consumption as well as labour costs, but at the destination level these programmes may equate to fewer jobs and reduced benefits in the community.

Independent actors, “management” and governance in the urban tourism system: Tourism systems are composed of many actors, each with a unique role in the system and each acting independently. An important insight in system governance is that management within the system may require a wide range of techniques. Individual businesses, each a meso-level system within the larger tourism system, may operate on a hierarchal, “command and control” basis. In the simplest sense, in such systems, senior managers may direct actions with staff enacting them based on a variety of direct rewards and punishments to enforce compliance. Of course, even in traditional businesses, implementing change is never as straightforward as this and there are libraries of management books on managing organisational change.

In higher-level systems, other techniques are necessary to steer independent actors toward specific objectives. For example, Destinations require somewhat different forms of organising and steering than hierarchically structured firms. It is for this reason that destination governance, rather than destination management, is the preferred term for many researchers (Baggio et al., 2010, Beaumont and Dredge, 2010). Governance has several noteworthy characteristics that differentiate it from traditional management. Network governance tends to be stakeholder-oriented and participatory rather than top-down management (Volgger and Pechlaner, 2015). Collaboration and cooperation skills are critical in achieving sustainability in tourism systems (Aydin and Emeksiz, 2018). Volgger and Pechlaner (2015) note that there are numerous means of governance in destination networks including budgets, knowledge, trust, themes and brands. Several researchers have identified means of improving sustainable tourism performance, including knowledge management (Ruhanen, 2008), policy development and implementation (Hall, 2011).

As noted previously, much discussion of sustainable tourism focuses on destination systems. There is an assumption in much of the literature that destination marketing organisations will play a major role in implementing sustainable tourism. Although there is evidence of destination management organisation (DMO) involvement in some destinations, there are a wide variety of organisations that may lead in the process. Beaumont and Dredge (2010) explore the effectiveness of three possible structures for destination governance, each with their own strengths and weaknesses. One of the important characteristics of CAS is that they are self-organising. Systems’ members form structures – both formal and informal – to address system needs. The growth of tourism industry associations, collaborations and partnerships are all evidence that structures and subsystems are evolving to meet system needs.

The adoption of sustainable tourism practices through the destination system requires systemic change, and change agents must recognise the need to engage with a wide range of actors. By definition, sustainable tourism acknowledges the importance of stakeholder engagement. Appreciating the role of stakeholders, each an actor/agent in the system, is critical to understanding how the system functions. How change agents define the system will significantly impact their effectiveness. For example, we see increasing awareness of the importance of community perceptions of tourism’s function, as Zamfir and Corbos (2015) note in their evaluation of sustainable tourism in Bucharest.

Understanding the relationships within complex systems and identifying ways to effectively support the system change to meet sustainability goals is still in early stages. One promising theme in tourism is network analytics, “the analysis of the patterns of connections between the elements of a system” (Baggio, 2017), but it is clear that new tools and techniques will be required to assist tourism researchers improve their understanding of system functioning.

Feedback loops and their impact on urban tourism systems: Two important concepts in systems thinking are stocks and feedback loops. Stocks are the “accumulation of material or information that has built up in a system over time” (Meadows, 2008). Stocks change with flows – both in and out – of the system. It is important to note that stocks may be physical or intangible. For

instance, goodwill may be considered a stock. Meadows illustrates this when she states, “a stock is the memory of the history of changing flows in the system” (Meadows, 2008). Stocks often act as buffers or “shock absorbers” in systems. For instance, it may take some time for a decline in cocoa bean production to impact chocolate prices because of the stock – or inventory – of chocolates in factories and stores around the world. A feedback loop is a “closed chain of causal connections from a stock, through a set of decisions or rules or physical laws or actions that are dependent on the stock level, and back again through a flow to change the stock” (Meadows, 2008). Some feedback loops stabilise the level of stocks and stabilise the system. Other feedback loops reinforce change and are self-enhancing. When the change is positive, they can be considered “virtuous cycles”, but when the change is negative, they are “doom loops”.

The speed and efficiency of feedback within a system is critical to understand many of the challenges with which we are presented in sustainable tourism. Delays may have a significant impact on system performance. With imperfect information about the functioning of the system as a whole, or delayed information from other parts of the system, individual actors overreact to stimuli, creating oscillations in the system (Senge, 1990, Meadows, 2008). Significant challenges in the tourism system can be understood through the lens of these system oscillations.

Adaptation, resilience and tipping points in urban tourism systems: The tourism system demonstrates its adaptive capacity in a variety of ways. In recent years, technology has enabled several disruptive industries and transformed urban destinations. Airbnb has burst the “tourism bubble” and enabled visitors to extend beyond the tourism precinct and into communities. Systems are resilient – until they aren’t. Systems, like cities or tourism, are able to respond and adapt to changes, evolving in response to changing circumstances. Holling defines resilience as a “measure of the persistence of systems and of their ability to absorb change and disturbance and still maintain the same relationships between populations or state variables” (Holling, 1973). It is amazing to consider the changes to tourism in recent years, from the impacts of new technologies and products – such as Airbnb and Uber – on existing business models to changing consumer preferences as new generations enter the marketplace. With each change, the tourism system changes and adapts, proving its resilience. Yet, there are always limits to resilience. Understanding the thresholds at which the system can no longer “bounce back” has been a rich area of study in tourism literature. Limits of acceptable change research may be applied to tourism cities (Nasha and Xilai, 2010).

It would be wrong to assume that change in systems is slow. There are times when a relatively small change may cause a rapid change in a system. In recent years, the factors that contribute to moving beyond thresholds or “tipping points” (Gladwell, 2000) have become an important consideration in system change. Gladwell (2000) identifies specific types of relationships within the system, the nature of the message, and the context in which the message is conveyed, which contribute to the likelihood a message will move through a system – like an epidemic moves through a population.

Recognising system characteristics in tourism challenges

Applying systems thinking provides useful insights to tourism researchers and practitioners alike. At a relatively simple level, the boom or bust of hotel development is a clear example of a delayed feedback loop. Even more complex tourism phenomena can be analysed through the prism of systems thinking. Overtourism, an issue that has become part of public discourse in recent years, is only one aspect of the pressures from rising urbanisation and increased tourism. While there are many dimensions to the issue of overtourism, some of them can be understood through a systems lens. Consider the following system-related issues: delayed feedback loops

allowed resentment against the growth of tourism to fester. At the same time, reinforcing feedback loops, in which “success breeds success”, at the affected tourism destinations or attractions led to extreme demand for these experiences. During this time, the system changed as new players, notably Airbnb, entered and changed the relationships between actors in the system. Throughout this period, cities exhibited a resilience to changes taking place until a threshold was met and a tipping point reached, at which time the cries of overtourism erupted into the international headlines.

Changing the urban tourism system

The challenge of sustainable tourism in cities is not only in the identification of actions required for sustainability, but also in the implementation of sustainable tourism programmes across the system. The value of applying systems thinking to sustainable tourism in urban systems is the ability to use knowledge from other systems to address the current issue. Systems thinking provides some insights into where intervention in the system is likely to make the greatest impact. Once again, Meadows (2008) provides useful recommendations. A partial list, in increasing order of importance, includes establishing standards, reinforcing feedback loops, improving information flows, establishing rules and policies, self-organisation, establishing goals and redefining the purpose of the system, changing paradigms from the which the system arises, and ultimately transcending paradigms (Meadows, 2008). Although complex, systems can be “managed” and influenced to support specific goals.

To date there has been a focus on establishing policy frameworks to require systemic change. The slow implementation and limited effectiveness of approaches, relying on the traditional hierarchical view of management, have frustrated researchers and practitioners who recognise a number of barriers to be overcome, including “political, cultural, economic, social and psychological change” (Dodds and Butler, 2010), for greatest impact. Systems are resilient, and new policies can be resisted for a variety of reasons. Overcoming policy resistance demands a commitment to both collaboration between the stakeholders in the system and commitment to learning and adaptation by policy makers.

Each element of the system brings its own assets: skills and abilities, knowledge and resources, to name a few. Change agents, like those looking to improve sustainability across the system, must consider how these assets may be used, or enhanced, to achieve goals. Examining emerging fields of research, such as application of community-based assets (Dolezal and Burns, 2015) or community capitals (Kline, 2017) to sustainable tourism development, are promising. So too is taking a systems approach to workforce development and education, including training and other capacity building. As noted previously, knowledge management (Ruhanen, 2008) and enhancing knowledge assets within a system are important tasks for sustainable tourism advocates.

It is clear that important skills for working in systems are collaboration and cooperation. Given the independent nature of these systems, finding common tasks in which stakeholders can work together to improve the system will be an important foundation for future success. Understanding how to initiate and support such collaborations will be critical skills for implementing sustainable tourism in urban systems. While there are many examples of such collaborations, the recent UNWTO Mayors Forum for Sustainable Tourism (2019) provides an interesting roadmap for collaboration between cities that are competing for the same consumers. Their agreement includes commitment to contributing to SGD 11 – Make cities and human settlements inclusive, safe, resilient and sustainable – through adopting a common code of ethics, including tourism in wider urban planning, increasing communications between stakeholders, encouraging adoption of

sustainable practices, using data to manage and improve sustainable tourism performance, and engaging stakeholders – from residents to mayors – in the sustainable tourism process. These types of commitments utilise many of the techniques known to be effective in implementing change in systems.

Beyond sustainability in the city

While sustainability has been a focus of much research since the 1980s, concern is growing that sustainability is not enough (Pollock, 2015, Day, 2016). Regenerative approaches to development are becoming more widely adopted (Mang and Haggard, 2016), and interest in regenerative approaches to tourism and adoption of circular economy principles in cities are growing. These concepts build on concepts of sustainability but add a proactive, restorative dimension. There is no doubt that many cities face challenges of decline and need regeneration, and tourism may play an important role in addressing these issues (Wise, 2016). Once again, if these new approaches are to be effective, they must be adopted throughout the system, at all levels of the system hierarchy.

The future of sustainable urban tourism

Urbanisation and the growth of tourism have been defining phenomena of the past 30 years. Their development is intertwined. Tourism and cities are complex adaptive systems, adapting and evolving to meet new challenges and a changing environment. As we proceed into the twenty-first century, there is an imperative for both tourism and cities to become more sustainable. While conceptually sustainability and sustainable tourism appear simple, the implementation of comprehensive sustainability plans is complicated, with a range of actions required. Tourism systems are complex, and implementing sustainable tourism is a wicked problem.

To achieve the goals of urban sustainability we must deeply understand each aspect of the process. Researchers must continue to delve into each component of these plans. At the same time, it is critical that researchers and practitioners apply systems-thinking approaches to understanding how sustainability can become standard practice in urban tourism. It is clear that such an approach requires new tools for analysis. Fortunately, research examining new ways to manage systems is emerging (Zheng-Xin and Pei, 2014, Baggio et al., 2010), but great opportunity to learn more remains. In addition, many of our current research themes may benefit from a systems perspective. Sustainable tourism, as a concept, has been a great success, yet there remains hard work to ensure we achieve its promise in our urban tourism systems.

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