
Part III:

Smart Cities and Smart Tourism Destinations

8 Smart city or smart tourism destination? The formation of smart Ljubljana in Slovenia

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Introduction

A city comes to be known as ‘smart’ through the deployment of smart initiatives (Komninos et al., 2019). Smart initiatives contribute to the management of urban challenges and are present in varying forms, namely social media platforms, wireless internet, mobile applications, booking platforms, information beacons and so on (Femenia-Serra et al., 2018; Roopchund, 2020). The efficiency of these solutions is made possible through optimisation techniques that increasingly employ machine learning, deep learning and artificial intelligence algorithms (Buhalis et al., 2019; Fox, 2017; Estrada et al., 2019). In some places, smart initiatives have been designed specifically in response to tourism management needs and for enhancing visitor experiences, thus extending the nomenclature to ‘smart tourism destinations’ (Cavalheiro et al., 2020). Importantly, both smart cities and smart destinations emphasise the core principle of interoperable systems that connect and generate value for stakeholders (Buhalis, 2020). Smart cities are also capitalising on sharing economy (Taheri et al., 2022; Buhalis et al., 2020).

Little is known of the processes that drive smart initiatives (Mehraliyev et al., 2020). While some have shed light on **the core resources and conditions necessary for achieving smartness** (Lee et al., 2014; Boes et al., 2016; Shafiee et al., 2019), **fewer have elaborated the stages of smart development through which these resources and conditions are organised towards their practical design and implementation**. For example, working in the context of smart cities in Korea, Lee et al. (2013) developed a three-stage development model: **preliminary activity, developing actions and follow-up stage of implementation**. In the case of smart tourism destinations in China, Zhu et al. (2014) provided two stages of smart development – **designing and operating** – which involve government and organisations such as technology and tourism enterprises. However, Gretzel et al. (2015) suggest that smart tourism should be conceived as an ecosystem in which various technological components and entities exist with diverse roles and identities. The experience value co-creation process on destination online platforms in the pre-travel stage significantly affects the destination emotional experience (Zhang et al., 2018).

This chapter moves this conversation further by focusing on the role of collaboration in bringing together these diverse stakeholders and roles. Stakeholder collaboration is essential to smart cities. Janssen et al. (2019) argue that lack of stakeholder collaboration can inhibit interoperability and robustness, thereby hindering smart city developments. Indeed, the optimisation of smart networks are far from ‘neutral’, ‘politically benign and commonsensical’ (Kitchin, 2014: 8). Instead, they rely on multiple, diverse stakeholders who construct and dictate the efficiency of operations (see also Baggio et al., 2020). Yet, as Zuzul (2019) observes, the smart city collaboration process is still not clearly understood and, as a result, necessitates further insights from varying contexts.

Collaboration is central to tourism destination management and has historically been integrated into destination process frameworks (Zhang et al., 2018). Gray (1985) formulated a destination management model with three stages: problem-setting, direction-setting, and structuring. Selin and Chavez (1995) built on Gray’s model to emphasise partnership, thereby adding the stages of structuring and outcomes. While several other studies examine the development of collaborations (Waddock, 1989; Caffyn, 2000), it is Wang and Fesenmaier (2007) who present the most detailed framework for examining the formation of destination collaboration. Collaborative frameworks are linear and focused on internal processes. Bramwell and Cox (2009) suggest applying path dependence theory to incorporate the historical contexts that can influence collaborative stages. Considering the importance of the interoperability of diverse stakeholders and technological components (Buhalis

et al., 2019), there is a need to understand better the social, political, and technical processes that drive 'smartness' (see Zuzul, 2019).

This chapter investigates the processes by which Europe's Capital of Smart Tourism (2019 and 2020) – Ljubljana, Slovenia – has developed and instituted its smart initiatives. By doing so, the chapter bridges the academic literature on smart cities and smart tourism and extends our understanding of the social, political, and technological processes that drive 'smartness' at the destination level. Using Ljubljana as a case study, this chapter employs Wang and Fesenmaier's (2007) destination collaboration process framework alongside path dependence theory to trace the city's development of smart tourism initiatives. While the technological aspects of smart cities and smart tourism destinations have received considerable attention in the literature (Mora et al., 2019; Bastidas-Manzano et al., 2020), focussing on the human dimension and collaboration specifically enriches our understanding across both smart cities and smart tourism literature.

Literature review

Understanding smart cities and smart tourism destinations

The concept of smart cities remains debated and somewhat abstract within both practice and academic literature (Kumar, 2017; Bibri, 2019). Within academic research, smart cities are conceptualised as being *"related to solutions that optimise urban systems and user behaviour through smart devices, ICT-based automation, sensors and instrumentation"* (Kominos, 2014: 20–21). Governing bodies such as the European Union note that a smart city is *"a place where traditional networks and services are made more efficient with the use of digital and telecommunication technologies for the benefit of its inhabitants and business"* (EU, 2020: n.p.). In light of the varying definitions, Bibri (2019) proposes a contextual conceptualisation. The varied meanings of smart cities have resulted in diverse representations and understandings of how these places should develop (Zuzul, 2019).

Some authors have formulated smart city development models based on a stage model approach (Lee et al., 2013; Siokas et al., 2021). Kumar et al. provide a smart city transformation framework in which a city is said to undergo four stages: *planning phase, creation of physical infrastructure, formation of information and communication technologies (ICT) infrastructure and deployment of smart solutions*. Noori et al. (2020) create a three-stage model: input resources, throughputs, and outputs; however, the type of stakeholder engagement is unclear. The city government drives most smart city developments in Europe to provide a better standard of living for local citizens (Perboli & Rosano, 2020).

Despite the diversity in models, they focus heavily on the technological and urban aspects of smart cities. For instance, Lee et al. (2013) provided a smart city process emphasising smart technology. As a result, the participants involved in these studies are usually the urban planners and technology experts, representing solely the developers of infrastructure to improve quality of life (see Lee et al., 2013). However, thinking more broadly, Giffinger et al. (2007) propose that a smart city has six characteristics, namely: *smart economy, smart people, smart governance, smart mobility, smart environment, and smart living*.

Considering the role of tourism, Kumar (2017) recognises the smart economy as a place with businesses that tourists are interested in visiting. Tourism businesses are therefore identified as a component in the smart economy. Furthermore, Kumar et al. (2020) highlight smart tourism as one of the outputs of the smart city development process planned and implemented by government entities. Tourism stakeholders are represented then as beneficiaries rather than engaged stakeholders. While smart cities incorporate tourism, a separate research area explores smart tourism in cities, further discussed.

A few definitions have been proposed for a smart tourism destination (Buhalis, 2015, 2020; Ivars-Baidal et al., 2019). For instance, Buhalis (2015: n.p.) builds from smart cities:

"a smart tourism destination successfully implements smartness which is fostered by open innovation, supported by investments in human and social capital, and sustained by participatory governance to develop the collective competitiveness of tourism destinations to enhance social, economic and environmental prosperity for all stakeholders"

Buhalis' (2015) definition mentions some of the critical components of smart destination development: innovation, human and social capital. According to Boes et al. (2016), *the core components of smartness are ICT, innovation, leadership, human and social capital*. Moving beyond resources, Zhu et al. (2014) formulates a smart destination development model based on two stages: designing and operating. However, like smart cities models, Zhu et al. (2014) provide a simplistic account of smart development. These conceptual models (Lee et al., 2013; Zhu et al., 2014; Letaifa, 2015) have a one-directional flow and do not represent a collective representation of stakeholders and initiatives. Although previous studies have provided valuable insights, Zuzul (2019) concludes that there is a need for greater in-depth accounts of smart development that reflect a complex reality since there still exists process ambiguity.

Tourism destination collaboration

The process of tourism destination collaboration has been conceptualised mainly using two approaches: path dependence and stages. Path dependence, the less commonly used theoretical approach, is an evolutionary economic perspective that acknowledges the importance of connected and disconnected historical events in explaining the adoption of new processes, mainly when there exist more efficient, alternative pathways (David, 1985; Puffert, 2002). According to path dependence, *“history matters [...] the respective events represent initial conditions that, by triggering a self-reinforcing process, have an enduring impact upon the course of the path’s future trajectory”* (Sydow et al., 2012: 157). This has been applied to tourism collaboration research, illustrating how temporal continuities influence activities within a collaboration (Bramwell & Cox, 2009). Applying path dependence, Bramwell and Cox (2009) find that establishing a steering group for a tourism collaboration in the United Kingdom was a historical trend in other countries. Furthermore, the inclusion of multiple stakeholders in the process also stemmed from a past culture of consultation.

Unlike the path dependence approach, which highlights activities as temporal continuities, the stage approach is more prominently applied in tourism collaboration studies, as it focuses on internal, sequential processes (Bramwell & Cox, 2009). Stage processes have also been used to examine smart development (see Lee et al., 2013; Letaifa, 2015; Kumar et al., 2020; Siokas et al., 2021). This chapter applies the Wang and Fesenmaier’s (2007) five-stage process of collaboration formation, which builds upon major theories necessary for understanding destination collaboration (Menon et al., 2017). The five stages include assembling, ordering, implementation, evaluation, and transformation (see Figure 8.1) and are yet to be extended to the smart tourism context.

Wang and Fesenmaier’s (2007) process was designed based on responses garnered through interviews with tourism representatives in Indiana (USA), where the success of the destination has been partly due to its collaborative marketing initiatives. Compared to smart city models, Wang and Fesenmaier’s model provides greater detail of each stage and the final stage of transformation. The steps are also connected, though lacking indications. The model is also the only one crafted for destination collaborations, as the others previously mentioned were mainly based on partnerships and community-based collaborations. One of the model’s limitations is that macro-environmental factors, which were not explicitly identified, are only mentioned as being responsible for setting the preconditions for initiating a collaboration. Environmental conditions are connected to the reason for the

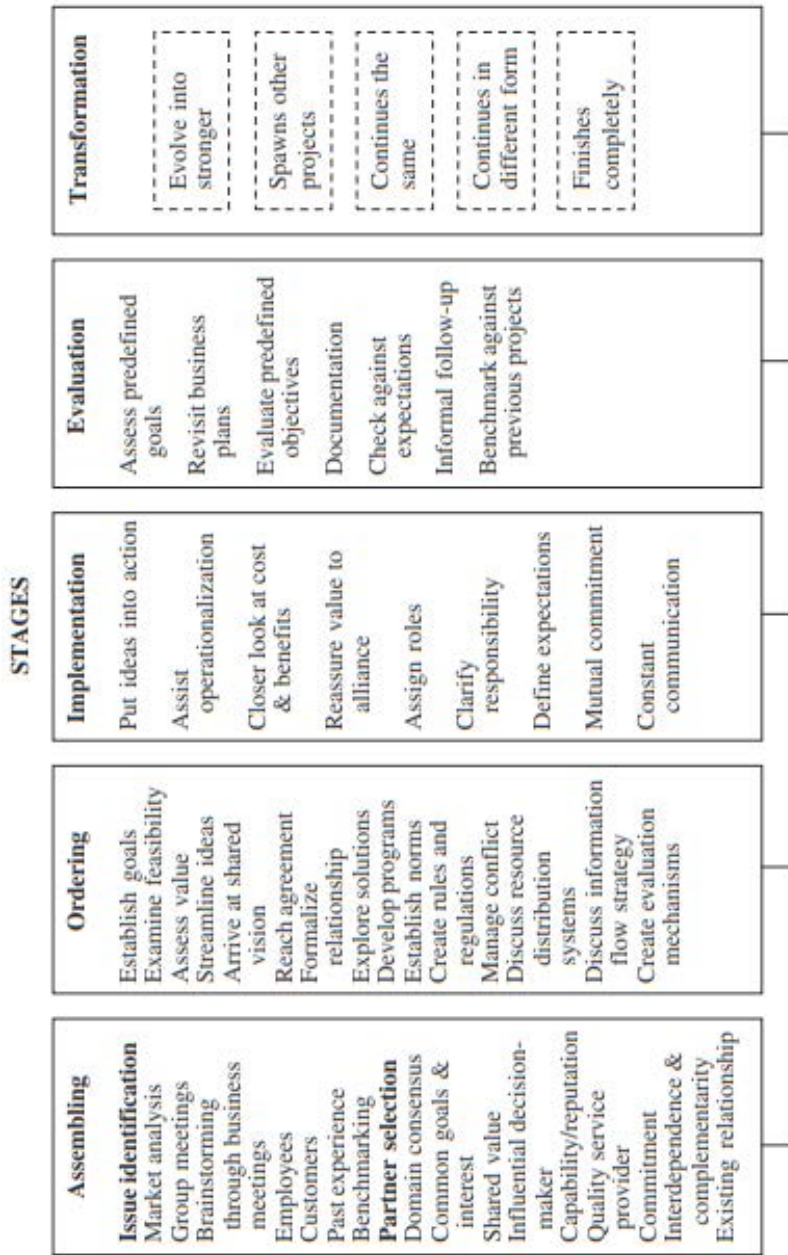


Figure 8.1: Stages of collaboration formation process (Wang & Fesenmaier, 2007: 867).

formation of collaborations rather than the rationale for unfolding specific activities within the process. By incorporating a path dependence perspective, this chapter examines the historical conditions contingent on how the process unfolds while also addressing Zuzul's (2019) call for greater attention to collaboration in smart destinations.

Methodology

This chapter applies a case study research design, as it provides results from a specific location that can be used to generate in-depth, novel findings (Easton, 1995). A qualitative enquiry was conducted within the smart tourism destination of Ljubljana, Slovenia. The city was awarded the European Capital of Smart Tourism in 2019 and 2020. Ljubljana has over 45 smart initiatives, although less than half of them were recognised in its bid to become a smart tourism destination. Reviewing the list of initiatives presented for the European Capital of Smart Tourism award, most benefit both locals and visitors. Only three initiatives could be identified as being specifically for visitors: the electric train, Taste Ljubljana tour and the destination management organisation's (DMO's) website. The other initiatives, which included wi-fi, mobile applications, bicycle, and car-sharing systems, could be used by locals and visitors and have also been referenced by other smart city studies as examples of initiatives (see Araral, 2020).

Examining the development process of smart initiatives in Ljubljana, interestingly, presents a different context than those previously studied. For instance, Yigitcanlar et al. (2019) examine Songdo, Masdar, Amsterdam, San Francisco and Brisbane; Noori et al. (2020) explore Amsterdam, Barcelona, Dubai and Abu Dhabi; Lee et al. (2014) investigate Seoul and San Francisco and Lee et al. (2013) study Songdo. These are internationally popular and well-established destinations compared to Slovenia, which gained its independence in 1991 from Yugoslavia. Like Ljubljana, Songdo and Seoul represent post-communist/colonial destinations. However, studies of the latter smart developments often concentrate on the technological aspect rather than incorporating the historical context (see Lee et al., 2013; Lee et al., 2014), which this analysis will demonstrate as significant macro-environmental factors in smart collaboration.

Data sources for this case study included documents, observation and 24 semi-structured interviews with supplier stakeholders representing 31 businesses involved in Ljubljana's tourism industry. NVivo, a qualitative data analysis software, was used to access, organise, and analyse data. During the transcription process, the individuals were anonymised (Gibbs, 2010). Thematic analysis was applied to capture the stages of development of the

city's smart tourism initiatives. This was guided by pre-determined codes based on the different stages from Wang and Fesenmaier's (2007) five-stage process of collaboration formation.

Analysis and findings: The formation process of smart Ljubljana

The formation process of smart Ljubljana points to the following insights that have not been previously discussed in the smart cities or collaboration literature. Previous conditions affect how stages develop, the cyclical nature of the stages, the simultaneous nature and omission of stages and the varying levels of interactions between stakeholders. These insights highlight the complexity involved in forming a smart destination.

The stages of smart development

The use of Wang and Fesenmaier's (2007) stages of destination collaboration aids in providing a sequential explanation of Ljubljana's smart development but required adaptation to account for the findings. The original model (Figure 8.1) was extended to demonstrate the interconnectedness and cyclical nature of smart development and the needed resources and stakeholders (Figure 8.2). Path dependence theory enhanced the model and illustrated the importance of historical context in shaping occurrences within smart development, such as the omission of formalisation and rules of engagement.

Assembling stage

The first stage, the **assembling stage**, involves gathering individuals and ideas for creating a vision, which resembles the starting phase of most smart city models (Wang & Fesenmaier, 2007; Letaifa, 2015; Kumar et al., 2020). While different visions were identified that guided smart development, they were not directly crafted within smart collaborations or for the development of Ljubljana's smart destination. The destination did not begin by constructing a smart city as seen in other locations (see Zuzul, 2019). Instead, many different initiatives contributed to it eventually becoming a smart city. This is similar to Masdar, which started with building an eco-centred project (Noori et al., 2020).

Ljubljana's first focus on smart was evident through its introduction of smart mobility solutions such as the smart transportation cards planned for 2017. These initiatives were part of the city's vision of pursuing sustainability. In Slovenia, focus on sustainability can be traced to 1996 when the destination launched 'The Green Piece of Europe', its first official promotional campaign to highlight the environment (Hall, 2000).

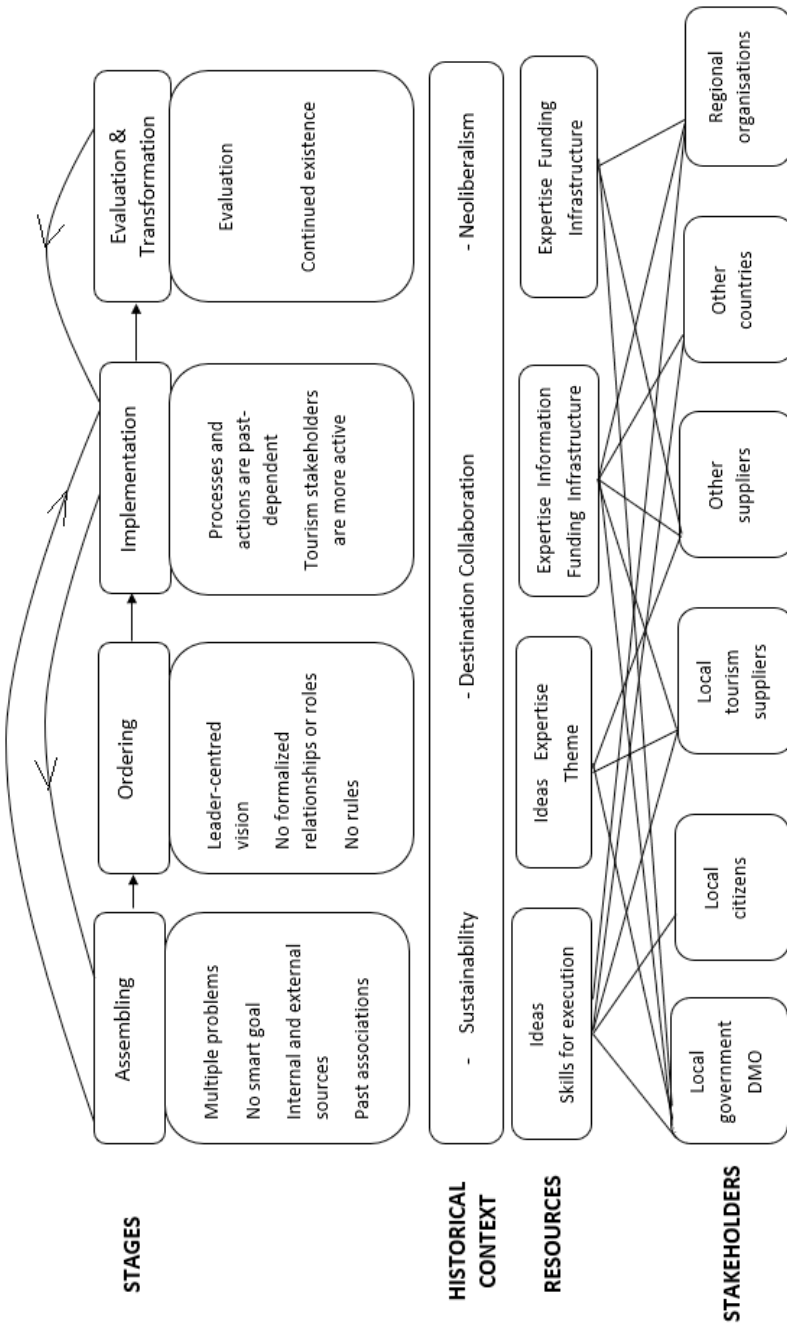


Figure 8.2: The formation of a smart destination

Since then, the destination has continued shaping its brand identity through a sustainability lens. This is evident in branding campaigns such as 'I Feel Slovenia' in 2006 and activities that led to numerous awards, such as Ljubljana being European Green Capital in 2016.

Various groups have been working on these initiatives for the implementation of sustainability strategies over the years. However, several distinct groups have been identified in Ljubljana's smart development: **DMO with tourism suppliers and municipality representatives with private stakeholders and government partners, such as the Ministry of Economic Development and Technology; the Ministry of Defence; and Ministry of Public Administration.** The joint deliberations mainly took place between the DMO and municipality lead, rather than the entire group of stakeholders. Tourism industry practitioners were invited to participate via meetings, emails and telephone calls. While meetings were designed to encourage dialogue, one stakeholder **lamented** that it was a less accommodating space for entertaining supplier feedback, similarly seen in smart cities participation (Engelbert et al., 2019). Meanwhile, at the time of taking office, the mayor requested ideas from the municipality. Locals were encouraged to submit their feedback, which is how the wheelchair application, considered a smart idea, was incorporated.

In Ljubljana, ideas were not only generated from organisations within the city as found in other smart cities (see Zuzul, 2019) but also externally. Due to the close relationship that the city has with Vienna, government representatives have regularly interacted and consulted with each other on smart-related matters. Ljubljana's municipality also consulted external organisations such as the European Union (EU). Representatives from the Ljubljana municipality reviewed various smart city bids by the EU and then submitted their application, which is the case for many European smart cities (Perboli & Rosano, 2020). This chapter supports Zhu's *et al.* (2014) view that government and tourism suppliers should participate in smart tourism design and development. However, upon further examination, the focus on stages of development reveals that the plan was influenced less by the local community and more by top-down leadership and influencers further afield who were outside of the city.

Ordering stage

The smart initiative ideas were further examined and developed alongside plans, representing Wang and Fesenmaier's (2007) ordering stage. Unlike the assembling stage, where participation included residents, suppliers and municipality, the ordering stage in Ljubljana adopted more of a top-down approach, similar to smart destinations such as China (Zhu et al., 2014) and

Barcelona (Boes et al., 2016). For bids submitted to the EU, screening was conducted by EU representatives. If successful, the municipal representative responsible for smart programmes was alerted and the destination was provided with the financial, technical resources and expertise. These EU initiatives were not deliberated on within collaboration. Hence, this stage is not necessary for explaining those specific initiatives as they proceeded to the implementation phase.

According to Wang and Fesenmaier (2007), strategies, rules and roles are developed during the ordering stage to guide the behaviour of stakeholders within the group and throughout the initiatives. As there was also no smart strategy in Ljubljana, development drew upon existing tourism plans and the city's Vision 2025. Ideas and details needed to be aligned with the vision and the theme of sustainability, which illustrates the role of path dependence. The sustainability path gave rise to infrastructure before the term 'smart' appeared in tourism development plans. This allowed integration, which is unlike some smart city cases where the infrastructure was newly developed for smartness (see Zuzul, 2019). For instance, the smart space that accommodates Ljubljana's electric vehicles and sharing systems was formed in 2007, which was ten years before the term smart appeared in tourism plans. Much of the planning, idea development and execution of activities were associated with the municipality representatives rather than tourism stakeholders, making Ljubljana more aligned with smart cities than smart destinations.

There were no rules or processes to guide tourism suppliers' engagement in the initiatives. Participants' feedback revealed that activities followed the same path of occurrences within other tourism destination collaborations. For instance, marketing collaborations such as World Travel Market and ITB did not require the establishment of rules for participation. During these initiatives, tourism suppliers took on a more *laissez-faire* approach for involvement while the DMO led, facilitated plans and engagement during the early stages. The same was being witnessed in Ljubljana's smart development and contributed to the top-down orientation. Some stakeholders regarded smart initiatives as another collaborative destination initiative, closely aligning with Ivars-Baidal et al.'s (2019) interpretation of intelligence being a destination management approach.

Implementation stage

Wang and Fesenmaier (2007) recognise the implementation stage as the point at which ideas are put into action. Tourism stakeholders were more evident during the promotion of smart initiatives and the delivery of smart experiences. In Ljubljana, smart platforms depended on the supply of information provided by the tourism stakeholders. Data were gathered through

site visitations and email requests. The DMO promoted Ljubljana as a smart destination. This could have been expected, as it is mainly responsible for the management and marketing of destination activities (Volgger & Pechlaner, 2014). This is unlike smart cities, where promotion usually resides with real estate and technology developers (Zuzul, 2019).

Promotion of smart initiatives occurred online via websites and social media pages for the DMO, and offline in the visitor offices, brochures and tradeshows. The organisation did not create new marketing campaigns but instead utilised already established promotional programmes for Ljubljana. Tourism suppliers also promoted, sold the products and provided the experience within their establishments, which is in keeping with Gretzel et al.'s (2015) stance that suppliers have dynamic roles. Suppliers were not just beneficiaries of smart initiatives, as Kumar et al.'s (2020) smart city model suggest, but were also active stakeholders in Ljubljana.

The municipality office was instrumental in endorsing smart cities conferences where knowledge sharing was encouraged. Although municipality representatives were evident in photos such as those taken at the European Capital of Smart Tourism presentation, they were representatives rather than spokespersons for the city. The mayor was seen as being vocal in promoting these initiatives. Promotion by public state officials reflected a path dependence trend found globally. City officials pay less attention to implementing smart city plans to benefit their citizens but instead embrace a market mentality, which focuses on competitive market practices associated with neoliberalism (Engelbert et al., 2019). In the following quote, one participant made mention of the city's business logic while explicitly noting the mayor's role:

'Ohh, there was long time stagnation until the new, which is still current mayor who is a businessman and kind of runs the city more like a private enterprise.' (Participant 9)

The promotional narratives of the mayor, though different from the DMO, promoted the same initiatives. For instance, in an interview with a smart cities' expert, the mayor explained that a smart day entailed residents utilising electric vehicles and bicycle sharing, which led to the city's designation as a smart tourism destination. The narratives were tailored to suit either the local citizens or tourists, depending on the marketing medium. Smart city Ljubljana, therefore, appears to be the same as smart destination Ljubljana. Nonetheless, there was an emphasis on promotion, which was further seen when the destination was recognised for the second time as a European Capital of Smart Tourism. Mention was made of an initiative that was not yet implemented in the destination. When questioned about Ljubljana's status as a smart destination, Participant 5 responded that:

'Ahhm, but yes, Slovenia will always try to follow the initiatives and jump on the wagons cause we know that we are lagging. So we will be very active in kind of, formally, officially adopting new things, but will be much slower with the implementation of those.' (Participant 5)

After implementing numerous smart initiatives aligned with sustainability, the focus of smartness in Ljubljana had changed to digitisation, having been awarded for this in October 2019 in the European Capital of Smart Tourism programme. Based on Wang and Fesenmaier's (2007) model, the focus would have been initially set during the assembling stage. However, this arose during the promotion of other smart initiatives such as Urbana Card and Taste Ljubljana. This highlights the cyclical nature of the process. Most smart cities concentrate on digitisation (Angelidou, 2015; Yigitcanlar et al., 2019), but this was not the case in Ljubljana. The destination was still tied to its long-held path of sustainability rather than embracing digitisation through advanced technological initiatives such as big data platforms (Noori et al., 2020). The sustainability context has determined the type of initiatives that the destination was able to embrace. Indeed, the notion that the past conditions the direction of new pathways is evident here (David, 1985; Sydow et al., 2012).

Evaluation and transformation stage

Once developed and promoted, initiatives are then evaluated resulting in one of the following actions: continued existence, further development, an extension of the initiative or termination. This stage is not evident in previous smart city models (see Lee et al., 2013; Letaifa, 2015; Siokas et al., 2021). Regarding continued existence, the wheelchair application fell within this category. The application was still being promoted to tourists while garnering further interests from tourism suppliers, which led to an increase in the number of suppliers on the platform. Taste Ljubljana was one of the initiatives that was further developed. The DMO reviewed it and plans were put in place to establish it as a more extensive programme. It still focused on the culinary aspect of Ljubljana but included local events that would be developed throughout the year. Then, some initiatives were also extended to other surrounding areas, resulting in the creation of smart communities and towns. While all initiatives continued to (re)develop in Ljubljana, some stakeholders noted that they can be terminated due to lack of the resources needed for sustenance, namely availability of finance, technical skills and knowledge.

Activities that were expected during the early stages were observed during the later stages of collaboration. For instance, the formalisation of roles and duties that should have occurred during ordering manifested after

implementation. One of the participants was officially given the title to lead smart city initiatives in 2018. According to the Wang and Fesenmaier's (2007) model, this should have happened at the start of implementation or during the planning stage of smart cities (see Lee et al., 2013). This further illustrates the cyclical nature of smart development and may explain why not all expected collaborative activities were established during the early stages.

Conclusion

This chapter advances understanding of smart cities formation while addressing the lack of smart tourism destination models. Extending the limited research on the evolution of smart cities that are based on one-directional and linear models (see Lee et al., 2013; Kumar et al., 2020; Noori et al., 2020; Siokas et al., 2021), this study concludes that the collaborative process is in fact complex, surfacing in cyclical and historically contingent pathways. Although findings illustrate that a smart city and smart tourism destination can undergo a similar collaborative process, applying Wang and Fesenmaier's (2007) stages of destination collaboration extends the understanding of smart formation through the evaluation and transformation stage. Specific activities, not previously discussed in the smart cities' literature, are also included; for instance, the practice of promotion within the implementation stage. It was also found that during implementation, smart city Ljubljana and smart destination Ljubljana seem to be identical and only differed based on the narratives used by stakeholders.

Path dependence theory also serves as a meaningful theoretical approach, as it enhanced the stage approach by focusing on external processes that affect different stages of collaborations. It illustrates that some of the internal collaborative activities are a result of historical trends. For instance, smart development in Ljubljana is past dependent, emerging from the destination's concentration on sustainability, with mechanisms such as infrastructure previously in place and not requiring focus as seen in smart city development. Though previous smart city formation models have not captured the historical context, it helps to illustrate the rationale for the adoption of smart and Ljubljana's vision not being as technologically advanced as other destinations. This also supports a context-specific understanding of smart cities (Bibri, 2019).

This chapter provides an alternate perspective to the straightforward processes proposed in smart research. Key stakeholders involved in smart development must be mindful of its complex and cyclical process. It is not well-established with a clear focus and networks as seen in traditional destination collaborations. Furthermore, the process is not time-bound, which

is prudent to note for destination practitioners who craft tourism development plans for short-term periods such as four years, as is the case of Ljubljana. This chapter provides guidance and a deeper look at occurrences in a well-recognised and rewarded smart context, which can prove useful to many industry practitioners who aspire to be like smart Ljubljana and create their own smart destination. Practitioners are further equipped with novel insights for tackling destination challenges through smart now and going forward. While this study provides greater insights, future research is recommended to explore the day-to-day stakeholder interactions and monitor the changes within smart development.

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