

Design and tourism - Four ways that design can contribute to tourism innovation (Paper #104 – poster)

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Abstract:

Design has recently garnered the interest of tourism researchers due to its capacity to generate innovations that can transform the tourism industry. To better understand the practical applicability of design to tourism, based on a scoping review, this article delineates the uniqueness and heterogeneity of the field of design and discusses its recent development with respect to tourism innovation. We argue that design knowledge, practice, and thinking can enhance both tourism research and tourism industries and propose four ways that design can contribute to tourism innovation.

Keywords: Tourism innovation, Experience Design, Service Design, Co-design, Smart Tourism Innovation, Design Thinking

1. Introduction

Design has recently garnered the interest of tourism researchers (Egger, Gula, & Walcher, 2016; Fesenmaier & Xiang, 2017) for its capacity to generate innovations that can transform the tourism industry (Hjalager, 2015). Based on a scoping review of the literature, this article delineates the uniqueness and heterogeneity of the field of design and its recent development with respect to tourism innovation to provide a better understanding and integration of these two fields. This article discusses the development of the linkage between tourism and design and its relevance to tourism innovation, namely the design of tourism experiences and services, technology-mediation approaches, and co-design practice. We propose four ways that design can contribute to tourism innovation.

2. Literature Review

Design and technology are the key drivers in tourism innovation. A report on tourism innovations by Hjalager (2015) listed seven ways that innovation can contribute to tourism, which are closely associated with tourist experiences and tourism services and systems. The most frequent impact of these innovations is the enrichment of tourists' experiences. Other contributions include the transformation of tourism services and systems by increasing productivity and mobility and generating new tourism-industry structures. One of the most far-reaching tourism innovations may be the use of information and communication technologies, which has increased the productivity and efficacy of tourism operations and organisations from what was possible before the Internet era (e.g., computer reservation system). The pervasiveness of the Internet has enabled new business models and communities (e.g., sharing economy) to emerge that feature user contributions. Recent innovation in tourism technology may be attributable to smart tourism, i.e., the integration of advanced ICT solutions to enrich tourist experiences and increase the efficiency and sustainability of the

tourism industry (Gretzel, Sigala, Xiang, & Koo, 2015). Similarly, the design field is also responding to today's rapid technological and societal changes with emerging approaches such as experience co-creation (Prahalad & Ramaswamy, 2004), co-design (Sanders & Stappers, 2008), experience design (Desmet & Hassenzahl, 2012), and service design (Stickdorn & Schwarzenberger, 2016) and the design thinking that enables them (Fesenmaier & Xiang, 2017). The emergence of these new approaches leads to tourism innovation.

3. Methodology

Given that *design thinking* is considered to be the foundation of tourism innovation (Fesenmaier & Xiang, 2017), the goal of this study is to explore how design thinking and its practice can contribute to tourism innovation, especially to its opportunities and challenges such as human-centredness, co-design practices and service design concepts. This short paper presents just a brief scoping review (Arksey & O'Malley, 2005; Grant & Booth, 2009) because the proposed method enables researchers to identify the research gaps in tourism innovation based on existing design literature. The method comprises five stages: identifying the research question, identifying relevant studies, study selection, communication of the data, and lastly, summarizing and reporting the results.

With reference to the above goal, we conducted a scoping search of three major academic electronic databases, namely Web of Science, Scopus, and Google Scholar, including conference proceedings, journals, and book chapters. Google Scholar is a useful platform for identifying grey literature that can complement the traditional academic (Haddaway, Collins, Coughlin, & Kirk, 2015). The scoping search was conducted into two stages: first, we wanted to determine the popularity of the term 'design thinking' in the current tourism literature. Then, the research team considered the insights obtained and discussed how design thinking can contribute to tourism innovation. To get a sense of how design thinking has been discussed in tourism literature and design-related fields, we used 'design thinking' as the key term in the title, abstract, or keywords, limited the timespan from 2000 to 2018 and only searched proceedings, journal articles and book chapters. We compared the number of articles related to 'design thinking' alone and those related to both 'design thinking' and 'tourism' (Table 1). The term 'design thinking' gained popularity just a decade ago: the Web of Science listed 1639 items, 1479 of which were published after 2010; Scopus has archived 2546 items, 2278 of which were published after 2010, and Google Scholar shows a similar pattern. In contrast, 'design thinking' has gained little traction in the tourism literature: only nine and 15 articles are registered in the Web of Science and Scopus, respectively, four of which are duplicates.

Table 1. Articles related to design thinking and tourism

Year	A	B	C	D	E	F
2018	229	2	429	3	12000	956
2017	328	2	404	3	11200	703
2016	287	4	372	4	9420	649
2015	206	1	289	1	7450	478
2014	119	0	251	2	5740	435
2013	101	0	153	0	4890	353

2012	87	0	161	1	3880	232
2011	78	0	122	0	3120	171
2010	44	0	97	1	2100	119
2009	55	0	78	0	1890	97
2008	31	0	51	0	1280	69
2007	18	0	28	0	1200	55
2006	15	0	37	0	855	35
2005	7	0	20	0	744	39
2004	3	0	11	0	638	41
2003	11	0	13	0	585	34
2002	6	0	10	0	373	17
2001	11	0	13	0	429	22
2000	3	0	7	0	364	10
Total	1639	9	2546	15	68158	4707

A. Design thinking (Web of Science); **B.** Design thinking and tourism (Web of Science)
C. Design thinking (Scopus); **D.** Design thinking and tourism (Scopus)
E. Design thinking (Google Scholar); **F.** Design thinking and tourism (Google Scholar)

This result suggests that ‘design thinking’ is still in its infancy in the field of tourism. Therefore, this study will be primarily based on the design literature. To advance the scoping search, we focused on the Web of Science and Scopus and further narrowed the dataset by adding three keywords representative of the tourism industry, namely co-design (Egger et al., 2016), service design (Zehrer, 2009) and experience design (Tussyadiah, 2014). We included papers and articles that have appeared in conference proceedings, journals and books. This dataset consists of 97 and 174 articles for the Web of Science and Scopus, respectively. We then scrutinized the title and abstract of each article and retained articles that addressed the historical development and future of design practice with respect to the tourism industry. The final literature database consists of 61 items, including 31 on design thinking, eight on co-design, seven on experience design, and 21 on service design. The rest of this article delineates the uniqueness and heterogeneity of the field of design and discusses its recent development with respect to tourism innovation based on a review of the literature on design and tourism innovation.

4. Results

There are two main discourses on design thinking (Johansson-Sköldberg, Woodilla, & Çetinkaya, 2013): one focuses on examining the designerly way of thinking (e.g., abductive reasoning), the process of design activity, and the creation of artefacts among design professionals (Cross, 1982; Schön, 1983); and the other focuses on presenting design thinking in practice and the competences that can be used by practitioners without any formal training

in design (e.g., Brown, 2009). Both design discourses refer to ongoing design practices that are agile and human-centred, however, mastering design thinking requires relevant knowledge, skill and competence, all of which require specific training. The design literature (Howard & Melles, 2011; Sanders & Stappers, 2008) suggests that designers who are trained in design should play different roles in facilitating the advancement of design teams through a design process such as tourism innovation. Here, we propose four ways that design and tourism can work together to promote innovation.

4.1 Provision of a knowledge base that supports design decision-making

The incubation of any innovation requires that the design team make a number of decisions that lead to a design outcome (Dorst & Cross, 2001). Informed decision-making requires that the design team establish mutual understanding and agreement regarding the knowledge at hand. Although a design decision can certainly be made based on explicit knowledge, research (Leonard & Sensiper, 1998) has also found tacit knowledge to be a great source of creative power that can lead to disruptive innovation. With the increasing interest in exploring design practices specific to tourism (Egger et al., 2016; Fesenmaier & Xiang, 2017), we suggest that the generation of tacit knowledge about tourism innovation via a learning-by-doing process can be realised by implementing design thinking (i.e., design process and methods) in the curricula of tourism education. The following paragraphs discuss how this knowledge can be cultivated in design practices.

4.2 Via the design process and the role of designers, design teams and participants

Design thinking refers to the cognitive, strategic and practical methods that designers and design teams use throughout their design investigation processes to generate outcomes that satisfy design goals or questions (Dorst, 2011). This investigation process is often represented as a double diamond model comprising four stages: discover, define, develop and deliver (Design Council, 2005). Adherence to participatory design principles and the active engagement of end-users and experts from the tourism and hospitality industries are expected. As such, design teams will comprise members with diverse backgrounds and little or no design training (Sanders, 2006). Since the design process involves a range of activities, such as field study, observation, ideation, and prototyping, design team members must be clear about the role of process participants. Therefore, clarifying the roles of the designer, design team members, and participants will facilitate the implementation of tourism innovations.

4.3 Use of design methods that facilitate tourism innovation

Design investigation requires that the design team master various design methods. There is an abundance of “generic” design methods (e.g., Kumar, 2013) to help a design team advance through the stages of the design process. However, a design team with diverse backgrounds can easily become overwhelmed by the multiplicity of these tools. Furthermore, the tools may be too generic and thus ineffective in producing valuable outcomes. Therefore, design and tourism researchers should curate a collection of design methods and create new tools specific to the tourism industry for tourism innovation.

4.4 Via design outcomes for idea development and communication

Design outcomes refer to the artefacts produced by the design team throughout the whole design process. Two types of outcome can be produced: those that are a result of design investigation, and those produced for the purpose of communication (Cooper, Junginger, & Lockwood, 2009). The findings of the former can be incorporated into the latter, which can then be used as explicit knowledge for communicating design concepts. These design

outcomes can be presented in both textual and visual formats. Developing explicit knowledge about these artefacts can contribute significantly to tourism innovation because they are the essence of the success or failure of the innovation. Currently, these artefacts are not easily accessible to researchers, so reports in the extant literature focus on innovations that are already commercialised. The implementation of design thinking in tourism will provide researchers with opportunities to examine these artefacts.

5. Discussion and Conclusion

Although innovation is a driving force in tourism development and has been transforming the industry since the last century, innovation research in tourism is still in its infancy. There is also an apparent gap in design-thinking research with respect to its application to tourism innovation. Thus, implementing design thinking in tourism (e.g., through tourism hackathons) can help researchers to identify the processes and conditions that contribute to successful tourism innovation. This article highlighted four areas in which design and tourism researchers can work together toward the advancement of the tourism industry.

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