

Data-driven Tourism for Sustainability: The Role of Transdisciplinarity and Computational Social Sciences in Tourist Studies Programs

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Climate change and the ongoing COVID-19 pandemic have demonstrated how sensitively the tourism ecosystem reacts to disruptive influences and events. To increase resilience towards disruptive (environmental) factors, technology and digitalization need to be embraced from a holistic perspective to foster sustainability throughout regional, national, and European strategies. With the practical application of these technologies, Austria and its regions have the potential to position themselves as an innovative and sustainable destination on a national and international level. By utilizing data-driven innovation, the tourism sector can increase resilience concerning the aforementioned disruptive forces. These innovations and underlying technologies increase flexibility and adaptive capacity to mitigate and conquer negative impacts on business models and the overall ecosystem. All things considered, this requires not only in-depth knowledge from the tourism industry itself from a practitioners' perspective but also a solid foundation concerning the application of technologies, as well as their potential unintended side effects. This in turn challenges existing curricula in the domain of tourist studies to cover both worlds. In consequence, the d̄TS (data-driven Tourism for Sustainability) project combines artificial intelligence (AI) and agent-based modeling/simulation to contribute to a more resilient and sustainable regional tourism in Austria on the example of visitor flow control. Based on the example of this project, emerging topics of computational social sciences (CSS) in the tourism industry in the context of developing new tourist study programs are presented.

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