論文題目
Dissertation Title

Tourism Activity Participation and Social Contact during the COVID-19 Pandemic
(新型コロナウイルス感染症パンデミック中における観光活動参加と社会的接触)

氏名 劉 瑞
Name RUI LIU

Background and motivation

As an infectious disease capable of person-to-person transmission, the novel coronavirus (COVID-19) has caused significant impacts on global health and peoples' daily life. To combat the pandemic, various policy measures, such as travel restrictions and stay-at-home orders, have been implemented worldwide. While these measures were effective in reducing virus transmission, serious damage to economic activities also followed. Among the sectors profoundly affected, the tourism industry weathered a challenging period and navigated a tumultuous journey toward recovery amidst the pandemic. This situation has highlighted the importance to strike a balance between preventing the spread of the virus and reviving the tourism industry. Simply prioritizing pandemic containment or abruptly easing travel restrictions fall short of ameliorating the hardships encountered.

The wealth of experiences garnered from policymaking endeavors and the array of behavioral responses witnessed form a potent groundwork for an in-depth exploration of comprehensive and sensible pandemic policymaking. On one side, the observation of policymaking experiences allows for the identification of a successful policymaking approach from a holistic standpoint, which in turn guides the development of comprehensive and robust policies. On the other side, a comprehensive understanding of tourists' behavioral mechanisms, particularly behaviors closely related to tourism recovery and virus transmission, more targeted, nudged, and adaptive interventions can be developed to encourage advocated behavioral changes. However, such an integrated effort is still limited in the tourism context, which causes a lack of scientific evidence to support pandemic policymaking. Considering this research gap, this dissertation embarks on empirical investigations, spanning multi-dimensional viewpoints. The focal points include synthesizing successful policymaking experiences and scrutinizing tourists' activity participation in different tourism facilities, along with subsequent social contact behaviors occurring in physical space during the pandemic. Through these concerted endeavors, this study seeks to contribute empirical insights essential for sound pandemic policymaking.

Research questions and objectives

A central question is proposed: How can the utilization of policymaking experience data and behavioral mechanisms provide more reliable and evidenced support to inform pandemic policymaking in the tourism context? Around this question, ten specific questions are raised as follows, ranging from phenomena reveal to evidence-based reasoning questions.

Q.1: What can be learned from past successful policymaking experiences and how to effectively strengthen the tourism industry to resist the impacts of the pandemic?

Research questions related to tourism activity participation

Q.2: How do tourists participate in different tourism activities and can distinct groups with similar patterns be identified?

Q.3: What are the features of these groups in terms of socio-demographics and psychological factors, and how do these factors affect identified groups?

Research questions related to the number of contacted people

Q.4: How does the number of people tourists contact fluctuate, and how does this variation interplay with different factors?
Q.5: Which factors are highly correlated with the number of contacted people and what are the specific effects?

Research questions regarding contact modes

Q.6: How do tourists make decisions regarding contact modes, and how do their decision changes?
Q.7: How do self-protection motivation factors and preparedness affect tourists' decisions on contact modes?

Research questions related to the dependency between contact behaviors

Q.8: Whether tourists make joint decisions regarding the number of contacted people and contact modes, and if so, how?
Q.9: How do different factors affect tourists' contact behaviors, and what are the similarities and differences between different infectious diseases?

*Considering that social contact behaviors may ex*hibit variations across different tourism facilities, Q.10 is raised as a supplement to Q.4-Q.9.

Q.10: What are the main variations in social contact behaviors, and the associated decision-making mechanisms, across different tourism facilities?

The overall research objective of this dissertation is to provide scientific evidence to support comprehensive and sensible pandemic policymaking in the tourism context. This will be achieved by summarizing the successful pandemic policymaking experience at the macro level and investigating tourists' behavioral responses (i.e., tourism activity participation and subsequent social contact behaviors) at the micro level. By accomplishing the research objective, this study enables evidence-based policymaking to support the recovery and long-term viability of the tourism industry when facing pandemics.

Methodology

In this study, both policy text data and behavioral data are used to achieve the proposed objectives. Policy data is mainly about tourism-related policy measures implemented by the Chinese national government during the pandemic. A total of 31 policy documents, ranging from December 27, 2019, to June 1, 2021, were collected from official websites such as the Ministry of Culture and Tourism. The behavioral data is regarding the comparative questionnaire survey conducted in four countries (Australia, Japan, the UK, and the US) from April to May 2021. A series of behavioral information including individuals' participation behaviors toward different tourism activities and the subsequent social contact behaviors were collected. To better capture the changes, the same behaviors of each respondent occurring during the seasonal influenza period in or before 2019 were also collected. Meanwhile, pandemic-induced psychological factors like risk perception were captured. A total of 4275 participants were equally included across the countries after data screening, with 24.6% in Australia (n = 1053), 24.8% in Japan (n = 1061), 26.0% in the UK (n = 1111), 24.6% in the US (n =1050), respectively. Corresponding to the research objectives, different data analysis methods were used, including text mining techniques, advanced modeling approaches such as latent class analysis, the hybrid choice model with correlated latent variables, and the copula-based joint model. To identify the important factors of the number of contacted people, the Boruta algorithm, a wrapper built around the Random Forest classification was also used.

Main findings

First, it is found that successful policymaking highlighted the importance of dynamic cohesion of policies at different stages, aiming to strike a balance between pandemic prevention and the revitalization of the tourism economy. Meanwhile, the significance of changes in both private sectors and tourists has been emphasized.

Second, tourists exhibited distinct participation patterns. The heterogeneity mainly stemmed from variations in travel frequency instead of preferences for different activities. The probability of belonging to a specific pattern was jointly influenced by personal and household characteristics, along with psychological factors like risk perception. Disadvantaged groups, such as the elderly and individuals with lower education levels and income, are more likely to belong to "Rare visitors".

Third, tourists did not immediately restore social contact to pre-pandemic levels, however, most contacts occurred without taking protective measures. Some vulnerable groups (e.g., people aged over 60) may pose themselves at risk in religious sites and sports centers, with a higher number of mean contacts. Certain tourism facilities, such as religious sites and entertainment venues, are associated with higher numbers of contacts and represent the relative risk facilities. Duration time, close-contact settings, and crowded places are identified as positive influential factors of contact number, while the effect of mask-wearing is the opposite. The varied significance of other factors such as age and travel frequency, across different facilities, reveals the heterogeneity in the behavioral mechanisms of social contact behavior.

Fourth, tourists' social contact rates slightly decreased during the pandemic. A synergistic effect is found, self-protective practices negatively relate to social contact mode choices. The influences of threat appraisal and coping appraisal are mainly in an indirect way through self-protective practices, the total effects reveal the context-dependent complexities. The preparedness shows a significant influence, suggesting tourists' social contact mode choices may be a habitual process, rather than a completely reasoned and deliberative process. Crowded places, duration time, and travel party also have positive effects. Moreover, tourists' decisions on social contact mode and the behavioral mechanism show certain variations across different activity facilities.

Lastly, the negative dependencies suggest tourists make joint decisions on social contact behaviors, having close contact decreases the probability of contacting more people, and vice versa. This is also applicable for the influenza period. The influence of socio-demographics and psychological factors varied on the number of contacts and contact modes, while the other factors showed similar effects. Environmental attributes such as crowded places, travel-related factors like travel party, duration time, and self-protective practices exert stable impacts on social contact behaviors. The diverse impacts of psychological factors underscore the complexity of the multifaceted decisions. The variations across different tourism facilities reaffirm the heterogeneity in contact behaviors.

Significant contributions

Theoretical contribution

Theoretically, this study provides comprehensive knowledge and information for pandemic policymaking from different perspectives.

A comprehensive and seamless policymaking framework is first developed in the tourism context by referring to successful policymaking experiences.

A thorough examination of social contact behaviors in various tourism facilities fills the data and knowledge gap in both tourism and the pandemic context.

Going beyond simply quantification, the associations between social contact behaviors and different influential factors, particularly psychological factors, are established. The dependency highlighted tourists' multi-faceted decisions on different dimensions of contact behaviors.

The heterogeneities in tourists' behavioral mechanisms across different facilities, allow for a nuanced understanding of the variations within different contexts.

Methodological contribution

Methodologically, this study employs a multi-source data approach, enhancing the reliability and validity of the findings.

The comparative survey enables simultaneous collections of behavioral information across different infectious diseases, contributing to a more robust analysis of individuals' behavioral responses.

This study also makes methodological contributions by adopting various behavioral modeling approaches. The use of the hybrid choice model with correlated latent variables provides insight into tourists' social contact mode choices during the pandemic, offering a more realistic perspective and enhanced theory testing. Additionally, the copula-based joint model is employed to explore the dependency between different dimensions of social contact behaviors in the tourism context.

Practical contribution

Practically, the proposed policymaking framework offers a roadmap for policymakers to develop comprehensive and cohesive policies to encourage the actions of different stakeholders involved in the tourism industry.

The evidenced information regarding tourists' activity participation and social contact behaviors behavior provides scientific support for developing more effective and sensible policy measures from a micro-level perspective.

The recognition of similarities in the mechanisms of social contact behaviors during different infectious diseases enables the application of successful strategies from previous outbreaks to mitigate the impacts of future pandemics.