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Weather conditions in urban destinations – An analysis of visitor flows
The case of the "Geneva City pass"

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(Short) Abstract

Baggio and Scaglione (2017) have proposed a network analytic approach to visitor flows (VF). The cumulative distributions of the trajectories' lengths were consistent with the "Levy flight random walks pattern" (LFRWP) either for the cell phone or loyalty/discounted/all-inclusive guest cards data. The research outcome on Geneva Pass (that used spatial analysis combined with general linear econometrics) showed limited validation of the LFRWPs even after data clustering (by season and meteorological conditions) along with a moderate evidence of weather influence.

Key words: Visitor Flow, Levy flight random, meteorological effects.

Extended Abstract

Studies on travel, time-space consumption has always been a challenge for tourism research, but interest has expanded with the increased availability of tracking techniques (for example, GPS trackers, cellphone data). Under the seminal research umbrella led by Lew and McKercher (2006); McKercher (2018); McKercher, Shoval, Park, and Kahani (2015); Baggio and Scaglione (2017) have proposed a network analytic approach to visitor flows (VF). The cumulative distributions of the trajectories' lengths were consistent with the "Levy flight random walks pattern" (LFRWP) either for the cell phone or loyalty/discounted/all-inclusive guest cards data. From a behavioral perspective, the verification of the LFRWP is coherent with visitor's trajectories optimization strategy of grouping nearby attractions together before visiting another set of attractions, that is a faithful description of tourist activity.

Geneva is an urban canton (state) comprising a surface of 282.5 km^2 that promoted a guest card with 50 attractions and valid for 24, 48 or 72 hours. Data collected from 2016 to 2019 from more than 40,000 cards were enriched with daily meteorological information translated into categorical

variables that mimiced MeteoSwiss' weather forecasts. The research outcome (that used spatial analysis combined with general linear econometrics) showed limited validation of the LFRWPs even after data clustering (by season and meteorological conditions) along with a moderate evidence of weather influence.

The authors propose a twofold explanation to these facts: urban destinations with highly connected transportation seem to disregard the importance of the optimization of travelers' strategies and; the limited number of attraction points may affect the verification of LFRWP.

References

Baggio, R., & Scaglione, M. (2017). Strategic Visitor Flows (SVF) analysis using mobile data *Information and Communication Technologies in Tourism 2017-Proceedings of the International Conference in Rome, Italy, January 24-27, 2017* (pp. 145-158): Springer International Publishing.

Lew, A., & McKercher, B. (2006). Modeling Tourist Movements: A Local Destination Analysis. *Annals of Tourism Research, 33*(2), 403-423. doi:https://doi.org/10.1016/j.annals.2005.12.002

McKercher, B. (2018). The impact of distance on tourism: a tourism geography law. *Tourism Geographies, 20*(5), 905-909. doi:10.1080/14616688.2018.1434813

McKercher, B., Shoval, N., Park, E., & Kahani, A. (2015). The [Limited] Impact of Weather on Tourist Behavior in an Urban Destination. *Journal of Travel Research, 54*(4), 442-455. doi:10.1177/0047287514522880

Guest cards and weather conditions in city destinations – An analysis of visitor flows - The case of the "Geneva City pass"

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Studies on travel, time-space consumption has always been a challenge for tourism research, but interest has expanded with the increased availability of tracking techniques (for example, GPS trackers, cellphone data). Under the seminal research umbrella led by Lew and McKercher (2006); McKercher (2018); McKercher, Shoval, Park, and Kahani (2015); Baggio and Scaglione (2017) have proposed a network analytic approach to visitor flows (VF). The cumulative distributions of the trajectories' lengths were consistent with the "Levy flight random walks pattern" (LFRWP) either for the cell phone or loyalty/discounted/all-inclusive guest cards data. From a behavioral perspective, the verification of the LFRWP is coherent with visitor's trajectories optimization strategy of grouping nearby attractions together before visiting another set of attractions, that is a faithful description of tourist activity.

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Evidence of the impact of weather conditions on visitor flows in urban destinations:

The case of the "Geneva City pass"

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Introduction: Baggio and Scaglione (2017) proposed a network analytic approach to visitor flows (VF) under the seminal research umbrella led by Lew and McKercher (2006); McKercher (2018). McKercher, Shoval, Park, and Kahani (2015) found a limited weather impact on tourism behaviour in Hong Kong as an urban destination. The aim of this paper is to show evidence of weather impacts on visitors flows (VF) in another urban destination, the Swiss city of Geneva. Using Baggio & Scaglione's (2017) approach, the authors found evidence of the influence of weather conditions on the "Levy flight random walks pattern" (LFRWP) of the distributions of different measures of the trajectories' lengths.

Data: Data contains more than 42,000 guests' cards of "Geneva City Pass" from 2016 to 2019 (https://www.geneve.com/fr/preparer-son-sejour/geneva-city-pass) in a file of more than 600,000 records. This data was enriched with daily meteorological information translated into categorical variables that mimic MeteoSwiss' weather forecasts icons as found published in the mass media.

Methods and results: Firstly, LFRWP analysis is carried out on different metrics such as: number of attractions itineraries, consecutive attractions distance, radium or area of the minimum circle containing all the attractions; secondly, traditional methods such as spatial analysis combined with general linear econometrics are used. Both outcomes show evidence of the impacts of weather conditions on VFs.

Discussion: The originality of this research, from the methodological point of view, is the link of LFRWP analysis with weather conditions using different metrics. From the scientific perspective, evidence of the impact of weather conditions on VF's seems to need a great amount of data recorded over several years. From the managerial point of view, insights about visitors' resilience levels to adverse weather conditions could enlighten urban destinations to shape appropriate products in such conditions.

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Mariani, M. & Baggio, R. (2020). The relevance of mixed methods for network analysis in tourism and hospitality research. International Journal of Contemporary Hospitality Management 32 (4), 1643-1673.