

VOL 02 ISSUE 24 | JUL 2021

ACADEMIC WEEKLY DIGEST

School of Hospitality & Tourism Management

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FORECASTING HOTEL OCCUPANCY RATE DURING SOCIAL UNREST PERIODS

Market volatility presents a great challenge in demand forecasting. **Dr Anyu Liu** and colleagues explored how social media data, when used as a proxy of crisis severity, is an effective tool to improve accuracy to forecast hotel occupancy rate during a crisis. When the market is volatile, the model that incorporates social media data is proven more effective in reducing forecasting errors.

TIMING MATTERS: CRISIS SEVERITY AND OCCUPANCY RATE FORECASTS IN SOCIAL UNREST PERIODS

DR ANYU LIU

Hospitality firms must take into consideration the impact of occupancy rate fluctuation during crisis when formulating their dynamic pricing and revenue management tactics. The purpose of this study is to improve the accuracy of hotel occupancy rate forecast during periods of crisis or volatility, taking the 2019 social unrest in Hong Kong as an example. A number of Tweets (i.e. extracted from Twitter) associated with the unrest was adopted as a proxy of the crisis severity.

These social media data were then combined with traditional time-series models, which are widely used in hotel demand forecasting literature. Models with and without the crisis severity intervention were evaluated to determine under which conditions a crisis severity measurement improves hotel demand forecasting accuracy. Crisis severity is found to be an effective tool to improve the forecasting accuracy of hotel demand during crisis.



FURTHER READING:

Qiu, R. T., Liu, A., Stienmetz, J. L., & Yu, Y. (2021). Timing matters: crisis severity and occupancy rate forecasts in social unrest periods.

International Journal of Contemporary Hospitality Management.

Link: bit.ly/3jckHcq

When the crisis is severe and the market is volatile, the model with the severity measurement is more effective to reduce the forecasting error. Thus, hotels should consider applying different models to predict the occupancy rate in different stages of the crisis.