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## Big Data Analytics for Enrichment of Rural Area Content Tourism in Okhotsk Sub-Prefecture of Japan

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### Abstract

**Abstract.** Japan has a well-developed domestic travel and tourism industry. Its total contribution to Japanese GDP is 7.4 % in 2016, making it one of the most influential sectors. However its expenditure has been declining gradually since 1998 (from 33.5 in 1998 to 21.6 trillion JPY in 2016). This study focused on collecting, observing and analyzing interests, expectations and tendencies of Japanese people living on rural areas. From such collected information we can obtain reasons for the declining of sector influence in GDP. Research purpose is to construct a data analysis model to transform the collected data to a meaningful graphical format by using big data analytics techniques. To strengthen reliability of the model we apply Monte Carlo simulation combined with Bayesian statistic and implement it on an Apache Spark platform to acquire results within the coverage of the study.

By this research, we plan to discover anomalies and sustainable development possibilities for economy and tourism. Thanks to the increase of popularity of Internet of Things (IoT) in everyday life, measuring public awareness has become more efficient since content generator role has been altered from specialists to any ordinary person, and people are creating massive amount of data every second. Therefore, analysis of big data with the use of IoT has become important to comprehend human behavior from multiple points of view, including scientific, economic, political, historical and sociological.

**Keywords:** tourism informatics, big data, apache spark, Monte Carlo simulation, Bayesian statistics, human analytics.