


Chapter 16

Understanding Tourist Perceptions and Expectations During Pandemic Through Social Media Big Data

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ABSTRACT

This chapter describes social media's role in understanding the impact of the COVID-19 pandemic on the tourism industry. At first, collecting large amounts of unstructured data from tourism-related digital media, social media, and search engines is explained. Then how these data can be analysed with artificial intelligence and machine learning-based sentiment analysis, content analysis, and topic modelling algorithms is described based on similar studies in the literature. Finally, how the collected data can be used to understand tourists' positive and negative experiences in the pandemic and determine their expectations from tourism enterprises, tourism-related public institutions, and government officials is expressed. Consequently, this chapter summarises how the digital world's big data resources can be used to extract knowledge about tourism during the pandemic.

INTRODUCTION

Understanding tourists' positive and negative experiences during the COVID-19 pandemic period, their perceptions about the measures taken during the pandemic process, and their expectations from tourism businesses and related public institutions are essential topics of this book. An essential source of information to understand tourists' remarks on the mentioned topics is big data from the digital world. The first of these information sources is the posts or tweets sent by tourists on social media channels such as Twitter, Facebook, or Instagram about tourism destinations, regulations, measures, and similar issues affecting tourism. Besides, keywords scanned in search engines such as Google are another vital

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source of big data. Also, tourists and travellers' comments on apps like TripAdvisor contain helpful information for understanding the topics mentioned above. From these sources, large amounts of data can be collected, consisting of millions of messages of a large number of individuals. However, these data are unstructured and needed newly developed artificial intelligence-based methods for processing and transforming them into useful information.

The most used analysis methods in converting data that can be collected from the digital world into useful information are sentiment analysis and content analysis. Natural language processing algorithms are used in sentiment analysis. There are dictionary-based and machine learning-based versions of them. By the sentiment analysis methods, millions of messages can be divided into three basic categories as positive, negative, or neutral. Also, it is possible to detect emotions such as anger, joy, and happiness expressed in social media posts by some sentiment analysis algorithms.

Content analysis methods can be used to determine the subject of the messages from the digital world by determining the frequency of words and the word groups used together in the posts' content. By analysing the relationships between words, it is possible to determine the content of social media messages, which are too large to analyse and classified manually. Moreover, it is possible to learn the subjects that hundreds of thousands of people take into consideration. Using content analysis and sentiment analysis, the issues tourists feel anxious or satisfied with can be determined.

The process of obtaining useful information by collecting and analysing social media data for a specific purpose is called social media analytics. The concept of social media big data analytics was also used to highlight the large amount of data collected (Abu-Salih, 2021). This section aims to raise awareness of social media big data analytics to academicians research on tourism management, public policy-making officials, and business managers. For this purpose, in the background section, firstly, the studies showing the use of social media data in tourism and the critical information obtained are mentioned. The studies that research the effects of the pandemic on tourism with survey and social media analytics were mentioned. The advantages and disadvantage of these two methods are highlighted. It was explained how the necessary operations to apply this method can be done by RapidMiner data mining software, which is simple to use and does not require coding knowledge.

BACKGROUND

Many studies have been conducted in the tourism sector on applying sentiment and content analysis to data collected from the digital world to understand customers' perceptions, thoughts, and expectations. As the first example of the studies conducted on this subject, researching tourists' perceptions of southern Italy's touristic region using Twitter social media data (Vecchio, 2017) can be given. In this study, the valuable information provided by the data obtained by collecting and analysing the posts on Twitter is mentioned. It has been stated that social media data can be used to provide better experiences to tourists and produce personalised marketing techniques.

Another study using Twitter data to measure satisfaction with touristic regions was conducted for Peru (Cajachahua & Burga, 2017). In this study, a total of 192,525 tweets containing the names of Peruvian cities and tourist regions were collected. Tweets were aggregated with Python through twitter's paid PowerTrack API. After clearing the collected Tweets from unnecessary expressions, topic modeling and term association analysis conducted with SAS Text Miner. Furthermore, sentiment analysis and correspondence analysis applied with the R programming language. As a result of the analysis, the

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