


Chapter 15

The Role of Big Data Analytics in Enhancing Service Quality in Tourism: A Literature Review

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ABSTRACT

Technology, especially big data analytics, is revolutionising the tourist industry, a major contributor to worldwide economies. The literature highlights the significance of big data analytics in improving service quality within the tourism business. Tourism businesses can reduce their environmental impact by analysing ecological data, therefore responding to the growing demand for sustainable travel. BDA aids destination management organisations (DMOs) in crowd management, improving visitor experience, and safeguarding cultural heritage sites. This study consolidates prior studies to clarify how Big Data Analytics improves the quality of tourism services. The assessment illustrates to practitioners and policymakers the utilisation of Big Data analytics for competitive advantage and improved service delivery through a literature analysis. To fully realise the potential of Big Data analytics in tourism transformation, future research must tackle current restrictions, explore upcoming technologies, and promote multidisciplinary methodologies.

INTRODUCTION

The offering of outstanding customer service is essential for success in service sectors (Rauch, D.A.,2015). Service quality in tourism has drawn increased academic interest among several tourism-related issues. Research studies that have been conducted in academic publications employing SERVQUAL, have been published in academic publications (Meesala, A., & Paul, J., 2018, Rauch,D. et al.,2015).

Moreover, due to the extensive nature of tourism, which encompasses several business environments, limited research has adopted a holistic approach to assess service quality especially in the case of big data and analytics within the sector. Consequently, the primary aim of our study was to identify the most impactful research, along with general and specific concerns related to tourism service quality, and to examine the present and future trajectories and trends of this research domain using a systematic literature review. This research proposes to conduct a thorough literature review to elucidate the methods by which big data analytics contribute to competitive performance enhancements.

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The progress into data mining techniques and mobile technologies has led to the swift expansion of big data analytics in several industries. The implementation of BDA can yield advantages, including cost reduction, enhanced decision-making, and improved quality of products and services. Big Data Analytics has been effectively employed in fundamental company processes, including accounting, marketing, supply chain, and operations. Insurance businesses have employed big data analytics and data mining to enhance the precision of policy pricing by leveraging diverse big data from various sources.

This study seeks to fill the research gaps in the literature about the application of Big Data analytics to improve service quality in tourism using an analysis of literature review. Literature reviews (LRs) are acknowledged for their capacity to encapsulate significant insights regarding a pertinent subject and to direct subsequent research in that area. This systematic literature review seeks to address four research questions (RQs) as outlined below: RQ1. What is the current status of research on the application of Big Data analytics to enhance service quality in the tourism sector? RQ2. In what areas related to service quality in the tourism industry is the application of Big Data analytics being examined? RQ3. What future initiatives could promote research on Big Data analytics in improving service quality within the tourism sector?

LITERATURE REVIEW

Organisations aim to understand the importance and relevance of data to enhance decision-making (Ahmed et al., 2017). In order to accomplish the process of big data analytics, prospective insights must be extracted from the data. (Galetsi, P., et al. 2020; Mergel, Rethemeyer, and Mergel, I. et al. 2016) The term “big data analytics” makes reference to a variety of data-intensive methods that are utilised for the purpose of analysing and synthesising enormous datasets.

Extensive data obtained via information interchange across many systems is sometimes referred to as 'big data' (Bahri et al., 2018; Al-Bahri, B., 2020). Although referred to be 'huge' data, its importance resides in its ability to collect intricate details pertaining to the subject of study (George G. et al. 2014; McAfee et al., 2012). Big data analytics advantages both large and small tourism organisations (Evans, 2005). Data analytics will allow these enterprises to identify links between employee engagement and quantitative data concerning consumer pleasure, thereby aiding tourism organisations in enhancing service quality. Those that work with big data have the responsibility of monitoring the amount, velocity, diversity, and validity of the data while also ensuring that the information that is gathered is used in an ethical manner (Morrisson and Abraham, 2015). The use of big data analytics is becoming increasingly prevalent in a variety of management fields, including the travel and tourist industry.

From Tourism Perspective

The implementation of big data analytics has been observed in a number of different aspects of the tourism industry. The Changi Airport in Singapore makes use of information technology to collect operational data regarding the movements of inbound planes, aircraft, and service vehicles on the ground, as well as the flow of passengers and the volume of passengers at terminals. Real-time visuals and interactive maps are used to display all of the data, which enables airport personnel to quickly resolve operational concerns and minimise manpower shortages (Choudhury, 2015). This results in an improvement in the quality of service provided.

According to Ogebeide, G. C., et al. (2021), big data analytics makes it possible for the tourism industry to conduct investigations that are both more extensive and smarter, hence improving the sector's overall service quality. According to Pandey and Kulshrestha (2021), the tourist industry collects significant amounts of data from both service providers and clients by means of the establishment of a service blueprint in hotels. According to Mariani et al. (2019), tourism businesses, destination administrators, and customers all participate in the generation and use of substantial amounts of data. It is through the application of data analytics that decision-making is improved

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