

Opportunities And Challenges Of Big Data In Hospitality And Tourism Management

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Introduction

One of the important aspects of business is data management because it is these data that would help a business to make decisions that are geared toward expansion or adjustments as far as the business is concerned. The [hospitality and tourism industry](#) deals with a whole lot of different aspects that must ensure that different data are kept well for informed decisions in the near future.^[1] (Irudeen and Samaraweera, 2013). For instance, the data that concerns the flow of customers in a given season so as to project the development needed commensurate to the customers' flow or the data concerning the trend with which different hotels and hoteliers charge their customers so as to ensure that the customers are advised properly on the best offers within the industry. This paper will address the opportunities and challenges that come with big data management in the hospitality and tourism industry.

Discussion

The first thing to look into is to see what defines big data. There are four different ways that have helped in qualifying data to be called "big data." They are termed as four Vs of big data. They include volume, variety, velocity, and veracity.

Volume: The hospitality and tourism industry is a big industry that may not be synonymous with local consumption but globally. Looking from the perspective of international tourism, one agrees that there is a lot of data that needs to be in the public domain as well as within the industry so that tourists and travelers may be informed on the issues that take place within the industry. Apart from informing travelers, managers are kept informed on management issues that improve performance within the industry. Because of globalization, data emanate from several sources, such as newsletters from different premises or companies within the industry, call centers within the industry or companies that form the industry, websites, and customer relations. All these make data that must be managed differently due to the different natures of origin. This means that much content is created on a daily basis and with speed, hence making the volume of the data to be humongous.

Variety: Especially with the advent of social media, there are several types of data that would be in the public domain from different quotas; there are organizations that can nowadays account only for a paltry 20% of structured data against the remaining 80%, which are unstructured^[2]. Talk of variety, and you will see that different departments will deal with different data types in an organization: the

property management system manager will deal with data that are of a property nature, and the content management system manager will have to deal with the data that are relevant to the department, while customer relationship management system (CRM) will deal with issues related to customers. After this, all these will need harmonization within the industry or company. The variety of data – at various points of contact like Facebook, Twitter, LinkedIn, and many more – is important as they help create customer intelligence to propel a better experience.

Velocity: This is the speed of responsiveness to an issue. This means that a large amount of data may get into the public domain if the velocity used to disseminate it is high. For example, a person may check into a hotel room and become disappointed with it, but rather than calling the front desk, the customer may decide to tweet about it. The speed at which such a message will reach the outside world is terrific and reaches many people within a short spell of time^[3]. Velocity also affects business intelligence because many industry partners and hoteliers would not rely on reports provided by their various destination management organizations (DMOs) anymore since such information becomes stale as it would be a few months old by the time they get the information.

Veracity: Given the variety of communications and the humongous content involved in big data, their truthfulness and accuracy may be in jeopardy, as Bollier and Firestone (2010) explain. Veracity, therefore, entails the industry's endeavor to identify its best customers, which may include employing ways such as using the best customer mode (BCM), looking at the external interactions, especially within unstructured data, or resorting to the use of traditional ways such as RFM (recency, frequency, monetary)^[4].

Another important aspect which is not always included among the four is "Value". The personalized application of big data in tourism brings value. Targeted product design and personalized marketing are extremely powerful opportunities that can be obtained from big data^[5]. Using strings of interviews carried out within the travel industry, Radovich (2015) explains how big data can be applied to increase impact and reduce friction across disciplines, both within a company and within the industry.

Opportunities

There is the creation of new information flow: Due to the fact that big data in hospitality and tourism are structured and at the same time repositioned, they give a possibility of cross-referencing them with other sources like open public data and social media. This information flow would ensure that the stakeholders within the industry get real-time information and react to it within the appropriate time, thus promoting the immediate response that would be needed.

The reliability component of big data is brought about as a result of real action by the users. It is the nature of big data in the hospitality and tourism industry that it is based on users' real actions that are not surveys [6]. This means that the real actions are analyzed, not the answers to questions or stated intentions. Big data, therefore, increases the sample base that the conventional research tends

to be based on. The reliability of big data analysis allows for the consideration of all aspects of the information for the provision of comprehensive results instead of biased conclusions that may come as a result of information loss in the sample data.

The personalized application of big data in tourism brings value. Targeted product design and personalized marketing are extremely powerful opportunities that can be obtained from big data^[7]. The benefit of doing business is to add value or gain returns to the business and, in turn, improve value to life.

Big data has contributed to the creation of ease of management in the hospitality and tourism industry. This can be explained, for instance, by the fact that the data that concerns the flow of customers in a given season can be managed well so as to project the development needed commensurate to the customers' flow. This is because the industry deals with a continuum of customers drawn from a big spectrum globally.

Challenges

Transforming big data into smart data: For ease of interpretation, big data ought to be transformed into smart data. Transforming such data normally poses challenges of time, as it is consuming and also confusing.

It presents the challenge of dealing with unstructured data: as mentioned earlier, organizations can nowadays account only for a paltry 20% of structured data against the remaining 80%, which are unstructured. These unstructured data pose a great challenge because most of them may not be factual as far as the industry is concerned. The unstructured data may be comments or questions on social media such as Twitter, Facebook, LinkedIn, and other platforms that are used by many people, and a travel brand or organization may most likely have a presence in them. They may also be user-generated content platforms (UGC), which makes it possible for customers to discuss your brand, thereby subjecting the company's e-reputation to a social jury. Examples of the user-generated content platforms may be Yelp and TripAdvisor, among others. Unstructured data may also emerge from videos, emails, photos, and testimonials that may be exchanged either directly with the brand or maybe just shared on a social platform. Lastly, they can be found in interactions on third-party sites ranging from tour operators to online travel agencies (OTA), including travel agents that can operate offline or online.

Conclusion

Management of big data in the hospitality and tourism sector is important for its opportunities, which are far-reaching, such as the creation of new information flow, being reliable, its contribution to the creation of ease of management in the hospitality and tourism industry, and the personalized application of tourism big data that brings value to the industry cannot be overemphasized. Although

some challenges have been seen in the handling of big data, the hospitality and tourism industry cannot run away from it because it provides a platform on which the large number of players within this industry can be managed.

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