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Digital Marketing Analysis in the Hospitality Industry: Big Data Optimization

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Abstract

This research analyzes digital marketing strategies in the tourism industry by optimizing Big Data. The methodology used is descriptive with a qualitative approach because the work is based on collecting existing information from other research work related to the problem of using digital marketing in the hospitality industry. Initially, the theoretical and conceptual basis of digital marketing, the tools it operates, and the concept of using Big data. Likewise, the changes generated by the hospitality industry, the new digital marketing strategies used by the hospitality industry with optimization of Big data, and how they affect their operations are analyzed. Finally, the benefits generated by the hospitality industry with the correct use of digital marketing strategies will be revealed, as it has been found that the results of using Big Data are profitable for business operations.

Keywords: Digital Marketing, Big Data, Hospitality Industry.

A. INTRODUCTION

Tourism, in addition to the oil and gas industry, is one of the country's sources of foreign exchange. Tourism, in addition to the oil and gas sector, has excellent potential and has an immense contribution to building the economy of the country, despite the fact that its growth is still prolonged at the present time (Fajariana & Untari, 2019). We are all aware that our home nation of Indonesia is home to a plethora of tourist and cultural attractions that span the length of the country from Sabang to Merauke. These attractions include tourist objects that are abundant in natural beauty, tourist parks, cultural parks, and culinary tourism. There are a lot of people who believe that Indonesia is heaven on earth. It boasts a wide variety of tourist attractions that are stunning and unique, with each region having its own distinct culture that exemplifies the qualities of the surrounding environment. Many domestic as well as international tourists love the wide variety of culture and tourism in Indonesia (Bahiyah et al., 2018).

This condition makes hotel competition in several areas highly competitive (Slattery, 2022). Hotel managers even compete to charge the lowest possible rates for their room units; otherwise, they will not get visitors. Competition occurs in hotels of the same class and those with a higher or lower class. This becomes even more so with increasingly tight market conditions (Olsen et al., 1998).

The provision of lodging, food and beverage services, and other services to members of the general public under the direction of a commercial management team characterizes the establishment known as a hotel, which may devote all or part of its space to these activities (Ionel, 2016). Hotels are typically built with the purpose of making travel more convenient for visitors as well as business travelers. Travelers who book excursions will typically be accommodated in hotels that are appropriate for the area in which they are located as well as for business travelers, and after they arrive at their destination, these tourists will typically choose to remain in hotels (Hadi, 2018).

Today, the hotel industry is proliferating as people's accommodation needs increase. For example, business activists, tourism activists, and other activities cannot be reached from home, so they need accommodation (Putri, 2022). This is one of the factors causing the rise of the hospitality industry with various standards. Many hotels have been established to accommodate the needs of business and leisure activities. Each hotel has advantages offered to guests starting from friendly prices, service standards, and company reputation (Bayudin, 2019).

Company reputation is closely related to fame and good name. Each hotel tries to increase the company's competitiveness and reputation through various strategies. One of them is utilizing digital marketing to introduce company profiles with persuasive content disseminated to the general public (Yulianto, 2015). Digital marketing attempts to promote a brand using digital media and reach all market segments. The effects of digital marketing are really significant. This is inseparable from the function of the sales and marketing department, which is required to be professional in the execution of marketing strategies to introduce and promote hotels and the products they sell. This is because the use of online promotional media expands the target market segment because it is accessible to people all over the world (Cahyani & Fitriani, 2021).

A global factor that has contributed to a growth in the amount of information created in recent years is the hotel business, which, like technology, is a global power. This indicates that the hotel industry can only be partially apart from the digitalization society has undergone over the past few decades (Wolor & Sari, 2020). It is among the best illustrations of this tendency. This is because the operations involved in the hotel business demand a great deal of information. This, along with other factors such as the number of international tourists, shifting hotel guest habits, and the emergence of more flexible and collaborative hospitality resources, has created the ideal environment for developing Big Data (BD) in this industry. Other factors contributing to this environment include the number of international tourists (Stylos et al., 2021).

The situation described above illustrates why companies in the hotel business utilize Big Data (BD). Using the data to make judgments in the hotel industry's business and management is possible if the data is correctly extracted, organized, and evaluated. The idea of a "smart" hospitality sector that is built on information and communication technology (ICT) infrastructure and services influences the ability to develop knowledge and, by extension, occupancy competitiveness (Shaw & Williams, 2009).

In a nutshell, in a global, digital, and more competitive than ever before context, the application of Big Data analytics techniques is justified as a tool to respond to the new needs of in-house guests, enabling them to offer a better stay experience, create contextual offers, co-create products and services, and deliver values in real-time. This enables them to provide a better stay experience, create contextual offers, co-create products and services, and deliver values in real time (Neuhofer et al., 2012). The hospitality industry must now take the next step, which is to capitalize on its favorable position in terms of the quantity and quality of data that is accessible in order to continue to be a pioneering sector in the use of ICT tools and applications. Even though the opportunities presented by Big Data have been recognized, a study on how the hotel industry can exploit Big Data still needs to be completed. Big data that hotel guests use for value generation creation is limited and requires additional investigation.

B. METHODS

The objective of qualitative research is to get knowledge of the occurrences experienced by the subject. Examples of qualitative research include behavior, perception, and motivation research, as well as action research that holistically employs descriptions in words and language in contexts, particularly natural contexts, employing a variety of natural methodologies (Gunawan, 2013). In descriptive research, the objective is to thoroughly gather as much information as possible about a problem, symptom, or condition to understand the examined topic (Soendari, 2012). Descriptive research is typically conducted with the primary objective of precisely and methodically describing the characteristics of the researched object or subject. In addition to secondary data sources, the writers of this study employ primary data sources; more precisely, political sociology serves as the primary source for this study. Furthermore, secondary data sources, also known as social reality data sources, are discovered by the author in the field, in the media, or through dialogues.

C. RESULTS AND DISCUSSION

1. Digital Marketing

Marketing a product or service via the internet, social media, mobile devices, and other forms of digital media is known as digital marketing. It's a catch-all phrase for many other types of advertising, including but not limited to: social media marketing, search engine optimization (SEO), and electronic mail (email) marketing (Kannan, 2017).

When compared to more conventional advertising mediums like print publications, billboards, and television, digital marketing relies heavily on quantitative metrics. You may get detailed information on your advertising campaigns from many of the most popular digital advertising platforms nowadays. Today's Digital Marketers are able to collect and analyze data on various customer behavior or user engagement thanks to the combined power of the internet and technology, allowing them to facilitate more personalized content and advertisements towards a clearly defined audience for better engagement and results. There are a number of advantages to using digital marketing rather to more conventional methods. In a recent study (Balla & Verma, 2018):

a. Can be monitored and measured

Digital analytics dashboards like Google Analytics, Google Data Studio, and Adobe Analytics make gauging the success of advertising campaigns a breeze. Thanks to digital analytics, information amassed over time is easily accessible whenever and wherever it's needed. There is a new data set created for each time a user interacts (touchpoint) with your company, so you can break down the data and see how different types of interactions affect your bottom line (sales or conversions). A conversion is any action taken by a user, whether it be reading an ebook, filling out a contact form, or buying anything online. The data gathered here will help you determine which marketing efforts are most successful in terms of converting your target demographic.

b. Efficiency in optimization

Because of the proliferation of online media platforms, advertisers are now able to purchase advertising space on a variety of websites and mobile applications and see live reports in a matter of hours. This gives marketers the ability to evaluate the efficacy of advertising campaigns and make adjustments, such as improving creatives in order to boost audience engagement.

c. Broad and targeted reach

Your reach is mostly constrained by your financial resources despite the fact that social media networks like Facebook, YouTube, and LinkedIn each have billions of members. Many of these social media platforms also allow you to target your advertisements to specific audiences, such as by demographics, interests, and behavior patterns, such as retargeting. One example of this is that you may retarget users who have previously interacted with your ads. Retargeting is a type of marketing that enables you to display relevant advertisements to users of your website who have previously visited specific pages on your domain. Take, for instance, a user who navigates to the product page of an online grocery store and finds themselves there. This user is interested in purchasing apples. In such scenario, the supermarket might target the user with advertisements relating to apples after the user leaves the site and browses other websites, social media platforms, and mobile app devices after the user leaves the site.

Chaffey and Chadwick revealed that there are three main types of digital marketing media channels that need to be considered, namely:

- a. The term "paid media" refers to any form of media that has been purchased and for which an investment has been made in order to execute, achieve, or convert via search, display advertising networks, or affiliate marketing. While using traditional methods, like as print media, ads on television, and direct mail.
- b. Earned Media The publicity that is produced as a result of public relations and the investment in targeting that is done in order to raise consumers' levels of brand awareness is referred to as "earned media." Earned media is media that has been earned. Word-of-mouth is also considered to be part of earned media, and it is something that may be encouraged through viral and social media marketing as well as dialogues on social networks, blogs, and other online communities.
- c. ⁸ Owned Media Owned Media refers to all forms of media that are owned by the company. The term "online media" refers to the website of the company, as well as its blog, email list, mobile application, and presence on social networking sites like Facebook, LinkedIn, and Twitter. Offline media, such as pamphlets and physical storefronts, on the other hand.

2. Big Data

Big data is one of the topics that has emerged recently and is often discussed in various media. The world has entered the digital era, and data has become one of the most critical assets. Not a few large companies have invested in storing all their data. The bigger the company, the more data and information it has becomes very large. This is called big data (Sagiroglu & Sinanc, 2013).

Big data is a collection of business-supporting procedures using massive volumes of unstructured or organized data. Big data is a product of the evolution of a preexisting database system. Big data differs significantly from traditional databases in terms of volume, speed, and data kinds, which are more diverse than the Database Management System (DBMS) in general.

Big data can be divided into three parts, known as 3V. Here is the Description:

- a. Volume. Big data has a tremendous data capacity. Processing large data is possible to run.
- b. Velocity. Offsetting the large size, data transfer speed is also very stable and effective. Even big data can receive data in real-time or directly because of high speed. This high speed is achieved because data is directed directly to memory instead of storing it on a disk.
- c. Variety. Big data has more data variations when compared to database systems such as SQL. Types of data that can be stored include traditional, unstructured, and unstructured. Video, audio, and text include data that must go through several stages before it can be processed in a database. The reason is that these incoming data have yet to be defined directly.

Besides the 3V ¹⁵ already explained, big data has another 2V, namely value and veracity. The value in big data is the flow of data that is irregular and consistent over several periods and conditions. If there is a significant data spike, the memory

resources used for processing will also be more significant. At the same time, veracity is a form of data justification. Data needs to be checked for quality through various sources. Connecting the data required the process. If there is no reasonable relationship, it can trigger control that is out of control.

Big data has several functions that can support a variety of activities; these functions are (McAfee et al., 2012):

a. Determine the Cause of the Problem in Real Time

Big data can analyze and determine the cause of a problem in the system. Simultaneously, big data can also reduce the possibility of errors occurring in the data storage process. The results of this analysis can also be displayed directly or

b. Make decisions

Big data can also be combined with intelligent devices and systems ⁹ such as the *Internet of Things (IoT)* and *Artificial Intelligence (AI)*. Its function is to receive and provide data and information needed to develop a product. For example, there is an innovative city system that uses the help of AI and large-scale internet networks so it can connect important points in cities, buildings, and other supporting infrastructure.

c. Detecting Anomalies in Business

Technical and non-technical disturbances are very likely to occur in a business. The function of big data itself is to detect anomalies or activities that stop and deviate precisely and quickly. Furthermore, big data can also plan and provide several options to overcome or reduce these anomalies. Of course, this process will take place very quickly so that the business activities of the organization and the company are not disrupted.

d. Save Cost and Time to Improve Application Performance

Data storage using a big data system can also reduce *costs* or costs incurred by the company. The time required to operate and manage data is shorter because the transfer process is speedy. That way, improving application performance can be done correctly. No wonder why so many companies use big data systems.

3. Big Data Optimization in ¹¹ Digital Marketing in the Hospitality Industry

With the support of the internet, data analysis is a necessary process needed by marketers in carrying out marketing activities in the hospitality industry. Simply put, Big Data can help to know customers better by using digital-based tools than traditional ones, starting from knowing their wishes to payment methods that suit their preferences so that customers will continue using them.

If we go back to the past, companies can store or collect details of transactions that occur within the company, customer contact information, emails received/sent by the company, contact information, and so on in records as a preference for the sales and marketing team to stay connected with customers. Companies can use software or applications to quickly determine marketing goals in the digital era and with big data. The data collected can also be used to determine the purchasing process as well as to make recommendations in the future. Digitizing data also makes it easier for sales and marketing teams to analyze data. This way, companies can quickly

determine behavior patterns to inform marketing strategies (Grishikashvili ¹³ et al., 2014).

⁵ The role of Big Data in digital marketing has become the key that allows success based on the results of factual data analysis. The following are the benefits of optimizing big data in digital marketing in the hospitality industry:

a. Customer Personalization

Big Data brings enormous advantages, especially in running a business with digital marketing activities. Implementing Big Data Analytics can predict hotel guest (user) preferences well, personalize the desired product, to offer relevant products. Cross-selling activities open opportunities to find out the preferences desired by hotel customers and identify more deeply what customers want or need, specifically from the product recommendations offered.

For example, when you want to find a hotel that suits your atmosphere and budget, after hours of searching for this product, you get a product that fits your needs. However, you just put it in the basket. With the help of the data recorded in the product "surfing" activity, you will get a personalized notification reminding you of what has been put in the basket. With this personalization, customers can be willing to read it to make transactions directly. Big Data sources are usually obtained from insights from purchases, activity on social media, filling out existing surveys, and computer Cookies.

b. Improve Customer Acquisition and Retention

Analyzing hotel customer data is a form of insight marketers use to improve or develop content that suits their needs. Customers will only contribute or participate in a product or service they want. To help focus more on creating the right content, marketers can apply Big Data. Continuing on the first point, personalizing hotel customers will affect customer acquisition, build a longer (loyal) customer relationship, and foster a desire to return.

c. Target Audience

Big Data has automated sales activities and helped marketers create a marketing algorithm model in business. This model will use advanced data inspection and build relationships with the right and valuable customers. This approach also helps marketers determine the right target using customer behavior-matching analysis. After marketers gain an in-depth understanding of Big Data Analytics, the data can be followed up in developing strategies to utilize this helpful insight and apply it to digital marketing activities.

d. A new era in Digital Marketing with Big Data

In the future, in the industrial revolution 4.0, Big Data will become an integral tool in the hospitality business and an essential component for digital marketing. Analyzing the data that has been collected becomes valuable data for making the right decision. With Big Data, marketers bring brands closer and become a choice for them in meeting their needs. In this case, there is an increase in learning Big Data in helping marketing activities.

D. CONCLUSION

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Digital marketing has a very close relationship with the hospitality industry, where these two items have the same target, namely, to make a profit. Digital marketing activities have enormous opportunities in the hospitality industry because they have entered the industrial era 4.0 and are heading towards society 5.0. The target market has transformed into a digital platform. Meanwhile, the challenge faced in digital marketing is using Big Data as a supporting component in facilitating marketing. The readiness of human resources to understand and implement digital technology and the readiness of companies to provide financial resources to purchase technological devices that support digital marketing. Big optimization, like social media analytics, tends to develop long-term growth drivers. With a focus on customer lifetime value, hospitality brands can use personalized social media advertising to increase their revenue, increase retention and create brand awareness with digital marketing. Using Big Data in designing marketing campaigns, helping to make the right decisions, making innovations, and personalizing consumers will help in digital marketing in the hospitality industry.

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