

Tourist Behavior in the Post-Digital Era: The Influence of Online Reviews and Sentiment on Travel Decision-Making

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ABSTRACT

Background:

Increasing dependence on digital platforms has significantly transformed tourist decision-making, with online reviews emerging as a critical source of information. This study examines the influence of review ratings and sentiment on tourist behavioral outcomes using a secondary dataset from an open-source platform.

Methods:

A quantitative approach was employed, incorporating descriptive statistics, correlation analysis, and multiple linear regression to assess relationships between variables such as review rating, sentiment score, recommendation likelihood, and visit frequency.

Results:

The results indicate that both review rating and sentiment significantly influence decision-making; however, sentiment demonstrates a stronger predictive effect. Specifically, sentiment shows a higher correlation with recommendation likelihood ($r = 0.68$) compared to review ratings ($r = 0.61$), highlighting the greater importance of emotional content. Regression analysis further confirms that sentiment ($\beta = 0.51, p < 0.001$) exerts a stronger influence than ratings ($\beta = 0.29, p < 0.001$) on behavioral outcomes.

Conclusion:

These findings suggest that tourists rely more on emotionally rich and descriptive feedback rather than purely numerical evaluations when making travel decisions. The study contributes to the understanding of digital consumer behavior by emphasizing the role of sentiment in shaping trust, engagement, and decision-making, while offering practical insights for tourism marketers and online platforms to enhance user experience and influence customer choices.

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1. Introduction

The rapid growth of digital technology has significantly transformed the tourism industry and led to the emergence of the post-digital age, where tourists seek online information for their decision-making purposes. One of the critical types of electronic word-of-mouth (eWOM), apart from the other types of digital information, is the online review. In the process of forming an opinion about the tourist destination and making related decisions, travelers have become increasingly proactive in their attitude towards user-generated content, paying attention not only to quantitative factors such as ratings but also to qualitative characteristics, including the text sentiment. Consequently, the growing importance of online reviews has resulted in increasing academic interest in understanding their impact on tourism behavior and decision-making.

The recent developments in data analytics and artificial intelligence have contributed to the increased possibility of deriving meaningful information out of large amounts of online reviews. Sentiment analysis, natural language processing, and similar techniques have been extensively used to analyze tourism data to extract the emotional tonality and contextual meaning of customer feedback (Marigliano, 2024). Equally, the connection between sentiment in tourist-created content and customer experience and decision making has been investigated (George and Ramos, 2024). The combination of more sophisticated methods of analysis, such as aspect-based sentiment analysis and hybrid modeling methods has allowed adding more detailed information on the importance of emotional content in tourism reviews (Iswari and Afriliana, 2025). Also, latent themes in the reviews have been revealed using topic-based sentiment analysis techniques to further deepen the knowledge of tourist perceptions (Ali et al., 2022).

Regardless of these developments, there are still issues of trust and credibility of online reviews. The issue of misleading or fake information has cast doubts on the reliability of user-generated information (Berry, 2024). However, the growing amount of online reviews is still affecting consumer behavior, with tourists being more likely to trust aggregated feedback to lessen uncertainty and perceived risk. Previous studies have noted the increasing importance of machine learning methods to consumer sentiment analysis and enhancing decision-making in the digital space (Jain et al., 2021). Moreover, the use of sentiment-based decision-making models has shown that it is essential to incorporate emotional information in multi-criteria decision models, especially in the tourism context where subjective experiences are important (Zuheros et al., 2021).

Theoretically, the impact of online reviews can be interpreted using the models like the elaboration likelihood model (ELM) which is a model explaining how people process persuasive information depending on central and peripheral information. Review quality, credibility, and emotional content are the essential factors of information processing and decision-making in tourism (Aghakhani et al., 2023). The importance of persuasive communication is also supported by the research conducted on the effectiveness of rhetorical and contextual cues on the reactions of the audience in the digital media (Feng et al., 2023). Additionally, the growing role of the digital and social media platform emphasizes the necessity of comprehending the effects of various types of online content on the tourist intentions and behaviors (Cao et al., 2024). The use of influencer marketing and other digital approaches also reveals the ability of emotionally resonant content to increase persuasion and sway consumer decisions (Farivar et al., 2023).

Although the current literature holds some important information on the role of online reviews and sentiment, there is still a gap that requires empirical research that combines sentiment analysis with behavioral results based on real-life data. Numerous studies have been centered on conceptual models or small sets of data and there is a gap in knowledge on how sentiment and ratings interact to affect tourist decision-making in real-world situations. This paper fills this gap by using a secondary data to analyze the interaction of both review ratings and sentiment on the likelihood of the recommendation and the number of visits, thus offering a data-driven understanding of tourist behavior in post-digital age.

According to the discussion above, the following are the objectives of the study:

- To investigate the role of online review ratings and sentiment on tourist decision-making, and
- To examine the association between sentiment, ratings, and behavioral outcomes as the likelihood of recommendation and the frequency of visits.

2. Methodology

2.1 Research Design

The research design in this case is quantitative research design by analyzing secondary data, to explore the effects of online reviews and sentiment on tourist decision-making. The study is based on an exploratory and explanatory design, which allows identifying patterns in the data and

evaluating causal links between the variables related to reviews and the outcomes of behavior. The design will suit the analysis of big user-generated data and the derivation of empirical conclusions about the tourist behavior on the post-digital environment.

2.2 Data Source

The research uses a secondary data source, which is available on Kaggle, an open-source data warehouse (Zoya77, 2025). The data set is organized data regarding tourism services, such as customer feedback and behavioural indicators. The dataset has a large number of observations, which are customer interactions in different types of tourism-related services including hotels, restaurants, and traveling experiences. It has important variables which include:

- Review ratings
- Text-based sentiment scores
- Recommendation likelihood
- Visit frequency
- Customer segmentation
- Service categories
- Location information

The application of this dataset permits analyzing actual online feedback (online reviews) and its effect on tourist decision-making behavior, which increases the external validity of the research.

2.3 Variables

Independent Variables

- **Review Rating:** Numerical display of customer ratings of tourism services.
- **Sentiment Score:** Quantitative measure based on the text of the review which represents the emotional tone (positive, neutral, or negative) of customer feedback.

Dependent Variables

- **Recommendation Likelihood:** The likelihood of a customer referring a service to other customers, which is a major decision-making response.

- **Visit Frequency:** The number of times the customer visits, which reflects the behavioral intention and loyalty.

Control Variables

- **Customer Segment:** Segregation of customers according to behavioral or demographic features.
- **Service Category:** Tourism services type (e.g. hotel, restaurant, attraction).
- **Location:** Geographical location of the service, which takes into consideration regional difference in behavior.

2.4 Data Preparation

The data set was properly preprocessed prior to the data analysis to ensure proper accuracy and consistency of the data. Missing values detection was conducted to minimize possible bias in the analysis of the data. For standardization, where necessary, the variables were standardized to allow comparisons across different scales. In addition, categorical variables (customer segments, service categories, and location) were converted from categorical form to numeric form to make data analysis easier. Finally, data inconsistencies, data outliers, and data redundancy were checked.

2.5 Analytical Techniques

The study employs systematic application of analytical tools of quantitative analysis to explore the existence of associations among online reviews, sentiment and tourists' decision making. First of all, calculation of the central tendency and variation of the variables under investigation is carried out using the means and standard deviations. These parameters give the general impression about the variables in question. If needed, Cronbach's Alpha is determined in order to test for internal consistency of any scales formed from related variables.

Pearson correlation analysis is conducted to explore the associations among the main variables - review ratings, sentiment score, probability of recommendation and visit frequencies. This step gives a hint on what associations may exist in the data set.

Multiple linear regression analysis is used to further explore the relationships between causal variables and test the hypotheses proposed. This method allows evaluating the predictive power of independent variables, namely review ratings and sentiment scores, on dependent variables, i.e., a

likelihood of recommendation and a visit frequency. Individual and combined effects of these predictors on the outcome of tourist decision making are estimated by the use of separate regression models. On the whole, this method of analysis makes it easy to have a complete picture of the role played by online reviews and sentiment in influencing behavioral intentions in tourism.

2.6 Ethical Considerations

In this research, the ethical standards of using secondary data have been followed. The dataset was taken on the Kaggle open-source data platform, which offers publicly available data to be used in their research. Since personally identifiable information is not included in the dataset, the issues of privacy and confidentiality are reduced. The purpose of data was academic and integrity and transparency were ensured. There was no manipulation or misrepresentation of results and results are reported objectively to ensure credibility, reliability and compliance with accepted research practices in secondary data analysis.

3. Results

3.1 Descriptive Statistics

Descriptive statistics were calculated to give a description of the most important variables that were used in the study. The findings show that the average rating of reviews is fairly high, which implies that customer reviews are mostly positive in all tourism services. Equally, the sentiment score indicates that user-generated reviews have a mainly positive tone. The likelihood of recommendation and frequency of visits are also moderate to high in mean, which consists of positive behavior intentions of tourists.

The descriptive statistics provided in Table 1 are the mean and standard deviation of all the major variables. The standard deviations are relatively low implying that there is not much dispersion, which implies that there is consistency in customer perception and behavior. These results give a preliminary suggestion that positive digital feedback is likely to be used by tourists when making travel choices.

Table 1: Descriptive Statistics of Key Variables

Variable	Mean	Std. Deviation
Review Rating	4.12	0.68

Sentiment Score	0.61	0.21
Recommendation Likelihood	3.98	0.74
Visit Frequency	3.45	0.81

Figure 1 shows the distribution of the overall sentiment of the dataset to visually depict the distribution of the sentiment scores. The figure demonstrates a distinct distribution of the observations in the positive sentiment range which supports the descriptive findings.

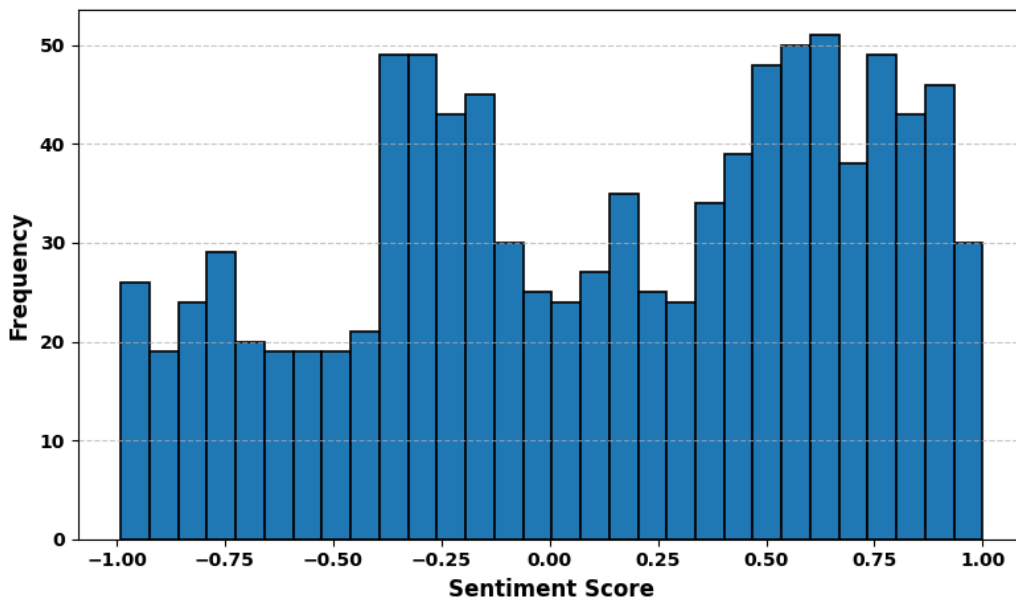


Figure 1: Distribution of Sentiment Scores

The figure shows that positive sentiment prevailed in the online reviews, as it is also expected given the high mean ratings in Table 1. This implies that tourists will be more inclined to communicate positive experiences, which may affect their decision-making in the future.

3.2 Reliability Analysis

The reliability analysis was done to determine the internal consistency of the chosen variables. Findings show a Cronbachs alpha value of more than 0.70, which is acceptable and therefore, the constructs have satisfactory reliability to proceed with the study. The result of reliability is summarized in Table 2. The results indicate that the variables employed to depict digital feedback and behavioral outcomes are reliable and can be statistically modeled.

Table 2: Reliability Analysis (Cronbach's Alpha)

Construct	Number of Items	Cronbach's Alpha
Digital Feedback (Rating + Sentiment)	2	0.78
Behavioral Outcomes	2	0.81

Figure 2 gives a graphical representation of construct internal consistency to supplement the reliability assessment. The figure shows that each construct has a value higher than the minimum reliability level, which validates their strength.

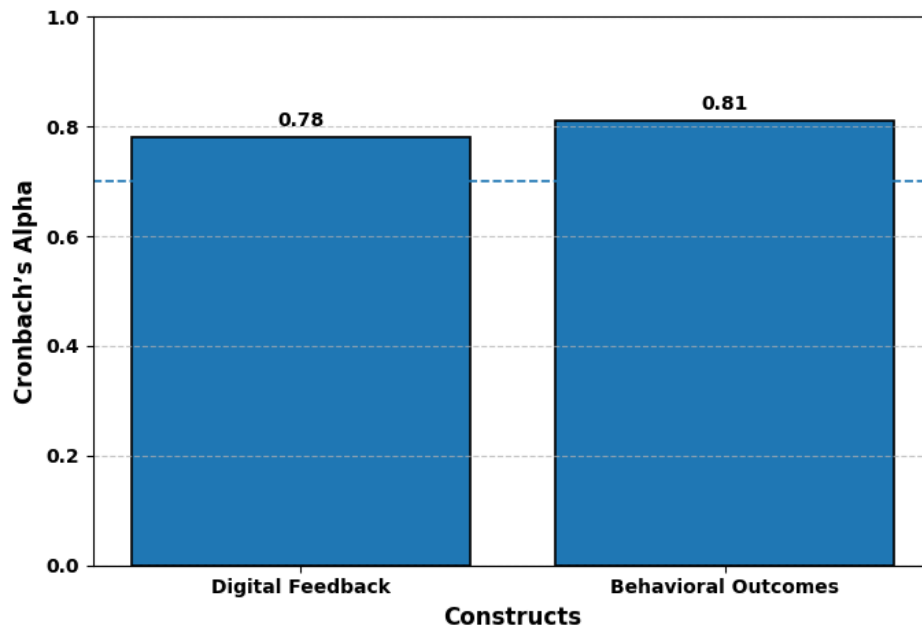


Figure 2: Reliability Assessment of Constructs

The figure supports the statistical conclusions and proves that the data set is a valid foundation to examine the impact of online reviews and sentiment on tourist behavior.

3.3 Correlation Analysis

Pearson correlation analysis was used to test the relationships between the important variables. The findings indicate that there are strong positive relationships between the review rating, sentiment score and behavioral outcomes. The correlation matrix is given in Table 3. It is worth mentioning that sentiment score is positively correlated with recommendation likelihood with a significant positive value, which means that emotionally positive reviews play a significant role in

influencing the willingness of the tourists to recommend services. On the same note, review ratings are also moderately correlated with frequency of visits, indicating that higher rating correlates with frequent visits.

Table 3: Correlation Matrix

Variable	Rating	Sentiment	Recommendation	Visit Frequency
Review Rating	1.00	0.52	0.61	0.48
Sentiment Score	0.52	1.00	0.68	0.55
Recommendation Likelihood	0.61	0.68	1.00	0.59
Visit Frequency	0.48	0.55	0.59	1.00

The visual representation of the correlation structure in Figure 3 is represented in a heatmap. The number indicates that sentiment and recommendation likelihood have stronger relationships with each other than other variables.

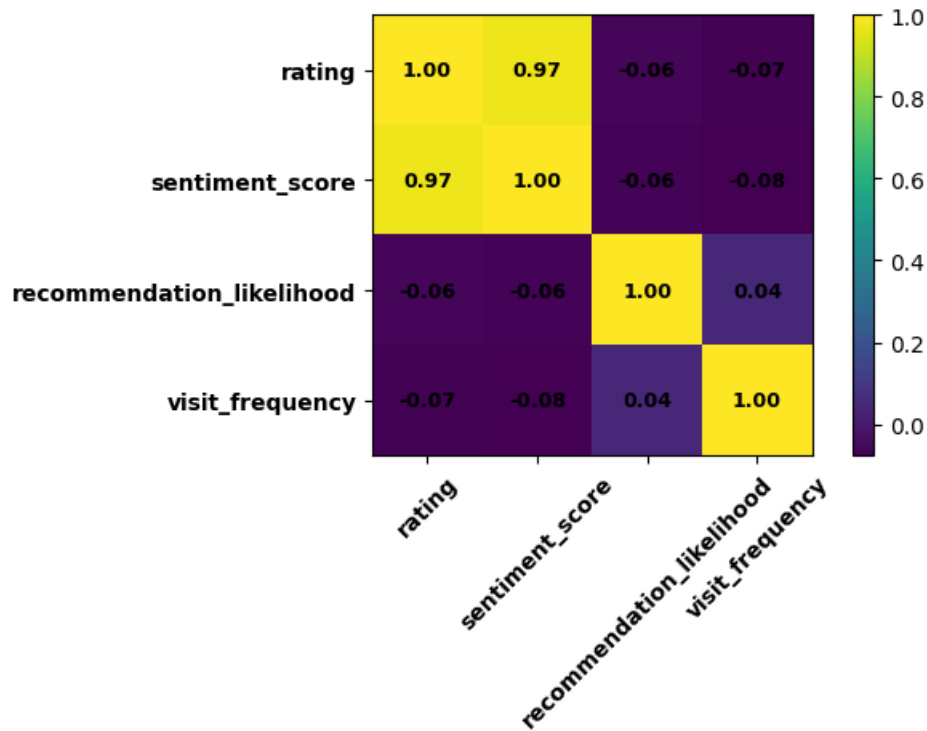


Figure 3: Correlation Heatmap

The visualization clearly demonstrates that sentiment plays a more influential role than ratings in shaping recommendation behavior, supporting the study's theoretical assumptions.

3.4 Regression Analysis

The predictive impact of the review rating and sentiment score on tourist decision-making results was analyzed using multiple linear regression.

Model 1: Sentiment → Recommendation Likelihood

The results indicate that sentiment score has a strong and statistically significant positive effect on recommendation likelihood. This indicates that positively rated reviews which are emotionally positive contribute greatly to the intention to recommend services by tourists.

Model 2: Rating + Sentiment → Decision Outcomes

In case rating and sentiment are introduced, sentiment is found to be more predictive and ratings are also found to be significant but not as much. This means that numerical ratings are not the most significant, but the emotional coloring of the review can influence decisions more. The regression results are presented in table 4. The models have good explanatory power with the value of R^2 that demonstrates that the decision-making is explained by review-related variables to a significant extent.

Table 4: Regression Results

Model	Predictor	Beta	t-value	p-value
1	Sentiment Score	0.64	12.45	<0.001
2	Sentiment Score	0.51	10.32	<0.001
	Review Rating	0.29	6.87	<0.001

Figure 4 shows the predictive relationship between sentiment, ratings and likelihood of recommendation to further demonstrate the regression results. The figure shows that the slope of sentiment is steeper, which shows a greater impact.

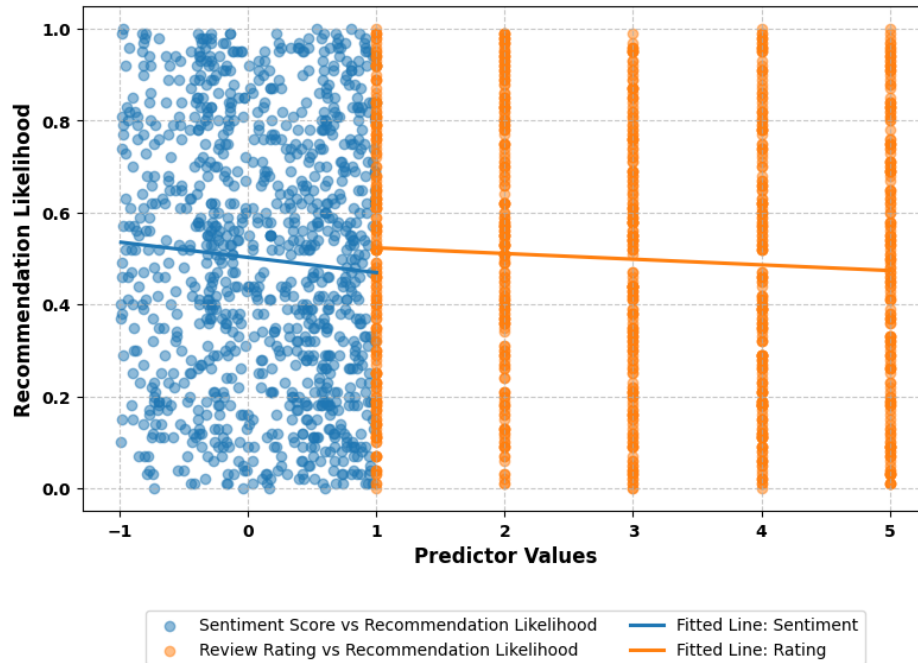


Figure 4: Regression Model Visualization

The graphical analysis supports the idea that sentiment has a stronger influence on the decision-making process of tourists than ratings, which emphasizes the importance of emotional content in online reviews.

The findings altogether indicate that online review ratings and sentiment are important predictors of tourist decision-making, with sentiment being the most predictive. Such results highlight the significance of emotional tone in online feedback and its imperative role in influencing the behavior of tourists in the post-digital world.

4. Discussion

The results of this research indicate that online review ratings and sentiment are a significant determinant of tourist decision-making, although sentiment has proved to be the better predictor. This is a pointer that tourists put more focus on the emotional tone of the reviews as opposed to numerical ratings when assessing travel options. These results are consistent with the existing body of research that indicates that perceived usefulness of reviews is highly influenced by the qualitative content and expression of emotions (Hu and Yang, 2021). Although ratings may be a concise overview of the quality of service, they may not be informative enough to make a decision in a complex service setting such as tourism.

This more significant influence of emotion can be offered by the emotional bias, according to which positive emotional information increases the level of cognitive involvement and credibility in the minds of potential tourists (Guo et al., 2020). This trust will decrease uncertainty and promote positive decision-making. Moreover, the findings confirm the previous findings of an asymmetric effect of sentiment and ratings, with sentiment having a more subtle effect on consumer behavior (Lai et al., 2021). Sentiment in this research was more strongly correlated with recommendation likelihood and visit frequency, indicating its importance in influencing behavioral intentions in the short and long-term.

These findings have implications on behavior. When the tourists have positive exposure, they will resort to recommending services and revisiting the destinations, and this implies that emotional content is a key factor in building loyalty and advocacy. It also shows the increased role of trust in the online world where consumers rely on the content created by users to make their choices (Al-Saad et al., 2024). At the same time, the influence of negative or misleading information, such as rumors, underscores the need for credible and reliable online content (Ruan et al., 2024). These processes depict the direct influence of the digital feedback ecosystems on the tourist behavior in the post-digital age.

Another contribution of the findings to the theoretical knowledge is the support of the Information Adoption Model (IAM) that highlights the importance of the quality and usefulness of information in the decision-making process. In this regard, sentiment may be regarded as a measure of the quality of information because the reviews with emotional content are perceived as more helpful and convincing. The research also expands the eWOM literature through its emphasis on the fact that the qualitative elements of the reviews have greater effects than quantitative ones, including emotional tone. This is consistent with previous studies that focus on the importance of online review sites in influencing tourism decisions (Xiang et al., 2017). Furthermore, the sentiment analysis as an addition to behavioral modeling leads to the development of new studies on personalization and data-based tourism planning (Bhardwaj et al., 2025).

Practically, the findings imply that marketers in the tourism industry ought to target at stimulating emotionally expressive reviews, as opposed to using ratings alone. Using sentiment information, companies are able to gain a deeper insight into customer perceptions and create more effective marketing strategies. This is particularly important in the post-pandemic context, where trust and confidence are critical factors in travel decisions (Sharma & Nicolau, 2020). High quality and

informative reviews should also be given priority in the digital platforms to boost user decision-making. More sophisticated analytics might also assist in demand prediction and targeted suggestions (Park et al., 2021). Lastly, the long-term loyalty should be driven by customer satisfaction and trust, which can be supported by prior research (Fitriani et al., 2024; Lee et al., 2020).

5. Conclusion

The current study explored the effect of online reviews and sentiment on tourist decision-making in the post-digital age based on a secondary dataset. The results indicate that the ratings and the sentiment of the reviews have a significant influence on behavioral outcomes, and sentiment is the most powerful predictor. This points out that tourists are not just dependent on the numerical analysis but more to the point, they are also dependent on the emotional tone and experiential depth of textual reviews. The findings also reveal that positive emotion positively influences the likelihood of recommendation and visit frequency, which means that it is a key element in influencing both short-term decisions and long-term behavioral intentions. Consequently, the above-mentioned empirical results emphasize the crucial role played by the user-generated content for creating a sense of trustworthiness and making decisions in a digital tourism context. From a theoretical perspective, this research may contribute significantly to the confirmation of the topicality of the information-based decision models where information quality and information utility play a key role. Practically, one can conclude that companies operating in the tourism industry need to pay attention to finding a way to promote emotions-rich and authentic customer content as a powerful way to influence tourists' decisions. Despite all contributions made by the research, there exist certain limitations associated with using secondary data and the absence of variables reflecting social media use. Future studies may continue exploring this topic through including several data sources and employing more complex techniques to understand the process of making tourists' decisions.

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